KASPERSKY LAB

Kaspersky® Internet Security 7.0

User Guide

KASPERSKY INTERNET SECURITY 7.0

User Guide

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CHAPTER 1. THREATS TO COMPUTER SECURITY

As information technology has rapidly developed and penetrated many aspects of human existence, so the number and range of crimes aimed at breaching information security has grown.

Cyber criminals have shown great interest in the activities of both state structures and commercial enterprises. They attempt to steal or disclose confidential information, which damages business reputations, disrupts business continuity, and may impair an organization's information resources. These acts can do extensive damage to assets, both tangible and intangible.

It is not only big companies who are at risk, individual users can also be attacked. Criminals can gain access to personal data (for instance, bank account and credit card numbers and passwords), or cause a computer to malfunction. Some types of attacks can give hackers complete access to a computer, which can then be used as part of a “zombie network” of infected computers to attack servers, send out spam, harvest confidential information, and spread new viruses and Trojans.

In today’s world, it is widely acknowledged that information is a valuable asset which should be protected. At the same time, information must be accessible to those who legitimately require it (for instance, employees, clients and partners of a business). Hence the need to create a comprehensive information security system, which must take account of all possible sources of threats, whether human, man-made, or natural disasters, and use a complete array of defensive measures, at the physical, administrative and software levels.

1.1. Sources of Threats

A person, a group of people, or phenomena unrelated to human activity can threaten information security. Following from this, all threat sources can be put into one of three groups:

- **The human factor**. This group of threats concerns the actions of people with authorized or unauthorized access to information. Threats in this group can be divided into:
    - *External*, including cyber criminals, hackers, internet scams, unprincipled partners, and criminal organizations.

- *Internal*, including the actions of company staff and users of home PCs. Actions taken by this group could be deliberate or accidental.

- **The technological factor**. This threat group is connected with technical problems – use of obsolete or poor-quality software and hardware to process information. This can lead to equipment failure and often to data loss.

- **The natural-disaster factor**. This threat group includes the whole range of events caused by nature and independent of human activity.

All three threat sources must be accounted for when developing a data security protection system. This User Guide focuses on the area that is directly tied to Kaspersky Lab's expertise – external threats involving human activity.

1.2. How threats spread

As modern computer technology and communications tools develop, hackers have more opportunities for spreading threats. Let's take a closer look at them:

The Internet

The Internet is unique, since it is no one's property and has no geographical borders. In many ways, this has promoted the development of web resources and the exchange of information. Today, anyone can access data on the Internet or create their own webpage.

However, these very features of the worldwide web give hackers the ability to commit crimes on the Internet, and makes the hackers difficult to detect and punish.

Hackers place viruses and other malicious programs on Internet sites and disguise them as useful freeware. In addition, scripts which are run automatically when certain web pages are loaded, may perform hostile actions on your computer by modifying the system registry, retrieving your personal data without your consent, and installing malicious software.

By using network technologies, hackers can attack remote PCs and company servers. Such attacks may result in a resource being disabled or used as part of a zombie network, and in full access being gained to a resource and any information residing on it.

Lastly, since it became possible to use credit cards and e-money through the Internet in online stores, auctions, and bank homepages, online scams have become increasingly common.

Intranet

Your intranet is your internal network, specially designed for handling information within a company or a home network. An intranet is a unified space for storing, exchanging, and accessing information for all the computers on the network. Therefore, if any one network host is infected, other hosts run a significant risk of infection. To avoid such situations, both the network perimeter and each individual computer must be protected.

Email

Since the overwhelming majority of computers have email client programs installed, and since malicious programs exploit the contents of electronic address books, conditions are usually right for spreading malicious programs. The user of an infected host unwittingly sends infected messages out to other recipients who in turn send out new infected messages, etc. For example, it is common for infected file documents to go undetected when distributed with business information via a company's internal email system. When this occurs, more than a handful of people are infected. It might be hundreds or thousands of company workers, together with potentially tens of thousands of subscribers.

Beyond the threat of malicious programs lies the problem of electronic junk email, or spam. Although not a direct threat to a computer, spam increases the load on email servers, eats up bandwidth, clogs up the user's mailbox, and wastes working hours, thereby incurring financial harm.

Also, hackers have begun using mass mailing programs and social engineering methods to convince users to open emails, or click on a link to certain websites. It follows that spam filtration capabilities are valuable for several purposes: to stop junk email; to counteract new types of online scans, such as phishing; to stop the spread of malicious programs.

Removable storage media

Removable media (floppies, CD/DVD-ROMs, and USB flash drives) are widely used for storing and transmitting information.

Opening a file that contains malicious code and is stored on a removable storage device can damage data stored on the local computer and spread the virus to the computer's other drives or other computers on the network.

1.3. Types of Threats

There are a vast number of threats to computer security today. This section will review the threats that are blocked by Kaspersky Internet Security.

Worms

This category of malicious programs spreads itself largely by exploiting vulnerabilities in computer operating systems. The class was named for the way that worms crawl from computer to computer, using networks and email. This feature allows worms to spread themselves very rapidly.

Worms penetrate a computer, search for the network addresses of other computers, and send a burst of self-made copies to these addresses. In addition, worms often utilize data from email client address books. Some of these malicious programs occasionally create working files on system disks, but they can run without any system resources except RAM.

Viruses

Viruses are programs which infect other files, adding their own code to them to gain control of the infected files when they are opened. This simple definition explains the fundamental action performed by a virus – *infection*.

Trojans

Trojans are programs which carry out unauthorized actions on computers, such as deleting information on drives, making the system hang, stealing confidential information, and so on. This class of malicious program is not a virus in the traditional sense of the word, because it does not infect other computers or data. Trojans cannot break into computers on their own and are spread by hackers, who disguise them as regular software. The damage that they inflict can greatly exceed that done by traditional virus attacks.

Recently, worms have been the commonest type of malicious program damaging computer data, followed by viruses and Trojans. Some malicious programs combine features of two or even three of these classes.

Adware

Adware comprises programs which are included in software, unknown to the user, which is designed to display advertisements. Adware is usually built into software that is distributed free. The advertisement is situated in the program interface. These programs also frequently collect personal data on the user and send it back to their developer, change browser settings (start page and search pages, security levels, etc.) and create

traffic that the user cannot control. This can lead to a security breach and to direct financial losses.

Spyware

This software collects information about a particular user or organization without their knowledge. Spyware often escapes detection entirely. In general, the goal of spyware is to:

- trace user actions on a computer;
- gather information on the contents of your hard drive; in such cases, this usually involves scanning several directories and the system registry to compile a list of software installed on the computer;
- gather information on the quality of the connection, bandwidth, modem speed, etc.

Riskware

Potentially dangerous applications include software that has no malicious features but could form part of the development environment for malicious programs or could be used by hackers as auxiliary components for malicious programs. This program category includes programs with backdoors and vulnerabilities, as well as some remote administration utilities, keyboard layout togglers, IRC clients, FTP servers, and all-purpose utilities for stopping processes or hiding their operation.

Another type of malicious program that is similar to adware, spyware, and riskware are programs that plug into your web browser and redirect traffic. The web browser will open different web sites than those intended.

Jokes

Software that does not cause a host any direct harm but displays messages that such harm has already been caused or will result under certain conditions. These programs often warn the user of non-existent dangers, such as messages that warn of formatting the hard drive (although no formatting actually takes place) or detecting viruses in uninfected files.

Rootkits

These are utilities which are used to conceal malicious activity. They mask malicious programs to keep anti-virus programs from detecting them. Rootkits modify basic functions of the computer's operating system to hide both their own existence and actions that the hacker undertakes on the infected computer.

Other dangerous programs

These are programs created to, for instance, set up denial of service (DoS) attacks on remote servers, hack into other computers, and programs that are part of the development environment for malicious programs. These programs include hack tools, virus builders, vulnerability scanners, password-cracking programs, and other types of programs for cracking network resources or penetrating a system.

Hacker attacks

Hacker attacks can be initiated either by hackers or by malicious programs. They are aimed at stealing information from a remote computer, causing the system to malfunction, or gaining full control of the system's resources. You can find a detailed description of the types of attacks blocked by Kaspersky Internet Security in section 12.1.3, 157.

Some types of online scams

Phishing is an online scam that uses mass emailings to steal confidential information from the user, generally of a financial nature. Phishing emails are designed to maximally resemble informative emails from banks and well-known companies. These emails contain links to fake websites created by hackers to mimic the site of the legitimate organization. On this site, the user is asked to enter, for example, his credit card number and other confidential information.

Dialers to pay-per-use websites – type of online scam using unauthorized use of pay-per-use Internet services, which are commonly pornographic web sites. The dialers installed by hackers initiate modem connections from your computer to the number for the pay service. These phone numbers often have very high rates and the user is forced to pay enormous telephone bills.

Intrusive advertising

This includes popup windows and banner ads that open when using your web browser. The information in these windows is generally not of benefit to the user. Popup windows and banner ads distract the user from the task and take up bandwidth.

Spam

Spam is anonymous junk email, and includes several different types of content: adverts; political messages; requests for assistance; emails that ask one to invest large amounts of money or to get involved in pyramid schemes; emails aimed at stealing passwords and credit card numbers, and emails that ask to be sent to friends (chain letters).

Spam significantly increases the load on mail servers and the risk of loosing important data.

Kaspersky Internet Security uses two methods for detecting and blocking these threat types:

- *Reactive:* it is a method designed to search for malicious objects using continuously updating application databases. This method requires at least one instance of infection to add the threat signature to the databases and to distribute a database update.
- *Proactive* – in contrast to reactive protection, this method is based not on analyzing the object's code but on analyzing its behavior in the system. This method is aimed at detecting new threats that are still not defined in the signatures.

By employing both methods, Kaspersky Internet Security provides comprehensive protection for your computer from both known and new threats.

Warning:

From this point forward, we will use the term "virus" to refer to malicious and dangerous programs. The type of malicious programs will only be emphasized where necessary.

1.4. Signs of Infection

There are a number of signs that a computer is infected. The following events are good indicators that a computer is infected with a virus:

- Unexpected messages or images appear on your screen or you hear unusual sounds;
- The CD/DVD-ROM tray opens and closes unexpectedly;
- The computer arbitrarily launches a program without your assistance;
- Warnings pop up on the screen about a program attempting to access the Internet, even though you initiated no such action;

There are also several typical traits of a virus infection through email:

- Friends or acquaintances tell you about messages from you that you never sent;
- Your inbox houses a large number of messages without return addresses or headers.

It must be noted that these signs can arise from causes other than viruses. For example, in the case of email, infected messages can be sent with your return address but not from your computer.

There are also indirect indications that your computer is infected:

- Your computer freezes or crashes frequently;
- Your computer loads programs slowly;
- You cannot boot up the operating system;
- Files and folders disappear or their contents are distorted;
- The hard drive is frequently accessed (the light blinks);
- The web browser (e.g., Microsoft Internet Explorer) freezes or behaves unexpectedly (for example, you cannot close the program window).

In 90% of cases, these indirect systems are caused by malfunctions in hardware or software. Despite the low likelihood that these symptoms are indicative of infection, a full scan of your computer is recommended (see 5.3 on pg. 56) if they should manifest themselves.

1.5. What to do if you suspect infection

If you notice that your computer is behaving suspiciously…

1. Don't panic! This is the golden rule: it could save you from losing important data.
2. Disconnect your computer from the Internet or local network, if it is on one.
3. If the computer will not boot from the hard drive (the computer displays an error message when you turn it on), try booting in safe mode or with the emergency Microsoft Windows boot disk that you created when you installed the operating system.
4. Before doing anything else, back up your work on removable storage media (floppy, CD/DVD, flash drive, etc.).
5. Install Kaspersky Internet Security, if you have not done so already.
6. Update databases and application modules (see Section 5.7 at p. 76). If possible, download the updates off the Internet from a different uninfected computer, for instance at a friend's, an Internet café, or work. It is better to use a different computer since, when you connect an infected computer to the Internet, there is a chance that the virus will send important information to hackers or spread the virus to the addresses in your address book. That is why if you suspect that your computer has a virus, you should immediately disconnect from the

Internet. You can also get threat signature updates on floppy disk from Kaspersky Lab or its distributors and update your signatures using the disk.

7. Select the security level recommended by the experts at Kaspersky Lab.
8. Start a full computer scan (see 5.3 on pg. 56).

1.6. Preventing Infection

Not even the most reliable and deliberate measures can provide 100% protection against computer viruses and Trojans, but following such a set of rules significantly lowers the likelihood of virus attacks and the level of potential damage.

One of the basic methods of battling viruses is, as in medicine, well-timed *prevention*. Computer prophylactics involve a rather small number of rules that, if complied with, can significantly lower the likelihood of being infected with a virus and losing data.

Below is a listing of basic safety rules which, if followed, will help mitigate the risk of virus attacks.

Rule No. 1: *Use anti-virus software and Internet security programs*. To do so:

- Install Kaspersky Internet Security as soon as possible.
- Regularly (see 5.7 on pg. 59) update the program's threat signatures. In the event of virus outbreaks updates may occur several times a day with application databases on Kaspersky Lab update servers updating immediately.
- Select the security settings recommended by Kaspersky Lab for your computer. You will be protected constantly from the moment the computer is turned on, and it will be harder for viruses to infect your computer.
- Select the settings for a complete scan recommended by Kaspersky Lab, and schedule scans for at least once per week. If you have not installed Firewall, we recommend that you do so to protect your computer when using the Internet.

Rule No. 2: *Use caution when copying new data to your computer*:

- Scan all removable storage drives, for example floppies, CD/DVDs, and flash drives, for viruses before using them (see 5.5 on pg. 57).
- Treat emails with caution. Do not open any files attached to emails unless you are certain that you were intended to receive them, even if they were sent by people you know.
- Be careful with information obtained through the Internet. If any web site suggests that you install a new program, be certain that it has a security certificate.
- If you are copying an executable file from the Internet or local network, be sure to scan it with Kaspersky Internet Security.
- Use discretion when visiting web sites. Many sites are infected with dangerous script viruses or Internet worms.

Rule No. 3: *Pay close attention to information from Kaspersky Lab*.

In most cases, Kaspersky Lab announces a new outbreak long before it reaches its peak. The corresponding likelihood of infection is still low, and you will be able to protect yourself from new infection by downloading updated application databases.

Rule No. 4: *Do not trust virus hoaxes*, such as prank programs and emails about infection threats.

Rule No. 5: *Use the Microsoft Windows Update tool* and regularly install Microsoft Windows operating system updates.

Rule No. 6: *Buy legitimate copies of software from official distributors*.

Rule No. 7: *Limit the number of people who are allowed to use your computer*.

Rule No. 8: *Lower the risk of unpleasant consequences of a potential infection*:

- Back up data regularly. If you lose your data, the system can fairly quickly be restored if you have backup copies. Store distribution floppies, CDs, flash drives, and other storage media with software and valuable information in a safe place.
- Create a Rescue Disk (see 19.4 on pg. 259) that you can use to boot up the computer, using a clean operating system.

Rule No. 9: *Review list of software installed on your computer on a regular basis*. This can be accomplished using the **Install/Remove Programs** service under **Control Panel** or simply by viewing the contents of the **Program Files** folder. You can discover software here that was installed on your computer without your knowledge, for example, while you were using the Internet or installing a different program. Programs like these are almost always riskware.

CHAPTER 2. KASPERSKY INTERNET SECURITY 7.0

Kaspersky Internet Security 7.0 heralds a new generation of data security products.

What really sets Kaspersky Internet Security 7.0 apart from other software, even from other Kaspersky Lab products, is its multi-faceted approach to data security.

2.1. What's new in Kaspersky Internet Security 7.0

Kaspersky Internet Security 7.0 (henceforth referred to as "Kaspersky Internet Security", or "the program") has a new approach to data security. The program's main feature is that it combines and noticeably improves the existing features of all the company's products in one security solution. The program provides protection against viruses, spam attacks, and hacker attacks. New modules offer protection from unknown threats and some types of internet fraud, as well as capability to monitor user access to the Internet.

You will no longer need to install several products on your computer for overall security. It is enough simply to install Kaspersky Internet Security 7.0.

Comprehensive protection guards all incoming and outgoing data channels. A flexible configuration of all application components allows for maximum customization of Kaspersky Internet Security to the needs of each user. Configuration of the entire program can be done from one location.

Let's take a look at the new features in Kaspersky Internet Security.

New Protection Features

- Kaspersky Internet Security protects you both from known malicious programs, and from programs that have not yet been discovered. Proactive Defense (see Chapter 10 on pg. 117) is the program's key advantage. It analyzes the behavior of applications installed on your computer, monitoring changes to the system registry, and fighting hidden threats. The component uses a heuristic analyzer to detect and record various types of malicious activity, with which actions taken by malicious programs can be rolled back and the system can be restored to its state prior to the malicious activity.

- The program protects users from rootkits and autodialers, blocks banner ads, pop-up windows, and malicious scripts loaded from websites, detects phishing sites, and protecting users from unauthorized transmission of confidential data (passwords for Internet connections, e-mail, or ftp servers).
- File Anti-Virus technology has been improved to lower the load on the central processor and disk subsystems and increase the speed of file scans using iChecker and iSwift. By operating this way, the program rules out scanning files twice.
- The scan process now runs as a background task, enabling the user to continue using the computer. If there is a competition for system resources, the virus scan will pause until the user's operation is completed and then resumes at the point where it left off.
- Individual tasks are provided for scanning Critical Areas of the computer and startup objects that could cause serious problems if infected and for detecting rootkits used to hide malware on your system. You can configure these tasks to run automatically every time the system is started.
- E-mail protection from malicious programs and spam has been significantly improved. The program scans these protocols for emails containing viruses and spam:
  - IMAP, SMTP, POP3, regardless of which email client you use
  - NNTP (virus scan only), regardless of the email client
  - Regardless of the protocol (including MAPI and HTTP), using plug-ins for Microsoft Office Outlook and The Bat!
- Special plug-ins are available for the most common mail clients, such as Microsoft Office Outlook, Microsoft Outlook Express (Windows Mail), and The Bat!. These place email protection against both viruses and spam directly in the mail client.
- Anti-Spam is trained as you work with the mail in your inbox, taking into account all the details of how you deal with mail and providing maximum flexibility in configuring spam detection. Training is built around the iBayes algorithm. In addition, you can create black and white lists of addressees and key phrases that would mark an e-mail as spam.

  Anti-Spam uses a phishing database, which can filter out emails designed to obtain confidential financial information.
- The program filters inbound and outbound traffic, traces and blocks threats from common network attacks, and lets you use the Internet in Stealth Mode.

- When using a combination of networks, you can also define which networks to trust completely and which to monitor with extreme caution.
- The user notification function (see 19.9.1 on pg. 271) has been expanded for certain events that arise during program operation. You can select the method of notification yourselves for each of these event types: e-mails, sound notifications, pop-up messages.
- The program now has the ability to scan traffic sent over SSL protocol.
- New features included application self-defense technology, protection from unauthorized remote access of Kaspersky Internet Security services, and password protection for program settings. These features help keep malicious programs, hackers, and unauthorized users from disabling protection.
- The option of creating a rescue disk has been added. Using this disk, you can restart your operating system after a virus attack and scan it for malicious objects.
- A new Kaspersky Internet Security component, Parental Control, enables users to monitor computer access to the Internet. This feature allows or blocks user access to certain internet resources. In addition, this components provides a capability to limit time online.
- A News Agent has been added. It is a module designed for real-time delivery of news content from Kaspersky Lab.

New Program Interface Features

- The new Kaspersky Internet Security interface makes the program's functions clear and easy to use. You can also change the program's appearance by using your own graphics and color schemes.
- The program regularly provides you with tips as you use it: Kaspersky Internet Security displays informative messages on the level of protection and includes a thorough Help section. A security wizard built into the application provides a complete snapshot of a host's protection status and allows to proceed directly to issue resolution.

New Program Update Features

- This version of the application debuts our improved update procedure: Kaspersky Internet Security automatically checks the update source for update packages. When the program detects fresh updates, it downloads them and installs them on the computer.
- The program downloads updates incrementally, ignoring files that have already been downloaded. This lowers the download traffic for updates by up to 10 times.

- Updates are downloaded from the most efficient source.
- You can choose not to use a proxy server, by downloading program updates from a local source. This noticeably reduces the traffic on the proxy server.
- A rollback capability has been implemented to recover to a previous application database version in the event of file corruption or copy errors.
- A feature has been added for distributing updates to a local folder to give other network computers access to them to save bandwidth.

2.2. The elements of Kaspersky Internet Security Defense

Kaspersky Internet Security protection is designed with the sources of threats in mind. In other words, a separate program component deals with each threat, monitoring it and taking the necessary action to prevent malicious effects of that threat on the user's data. This setup makes the system flexible, with easy configuration options for all of the components that fit the needs of a specific user or business as a whole.

Kaspersky Internet Security includes:

- Real-time protection components (see 2.2.1 on p. 24) providing real-time protection of all data transfer and input paths through your computer.
- Virus Scan Tasks (see 2.2.2 on p. 27) used to scan individual files, folders, drives, or areas for viruses or to perform a full computer scan.
- Updates (cf. Section 2.2.3, p. 27) to assure currency of internal application modules and databases used to scan for malware, hack attacks, and spam.

2.2.1. Real-Time Protection Components

These protection components defend your computer in real time:

File Anti-Virus

A file system can contain viruses and other dangerous programs. Malicious programs can remain inactive in computer file system for years after one day being copied from a floppy disk or from the Internet, without showing themselves at all. But you need only act upon the infected file, and the virus is instantly activated.

File Anti-virus is the component that monitors your computer's file system. It scans all files that are opened, run, and saved on your computer and any attached drives. The program intercepts every attempt to access a file and scans the file for known viruses, only making the file available to be used further if it is not infected or is successfully disinfected by File Anti-Virus. If a file cannot be disinfected for any reason, it will be deleted, with a copy of the file either saved in Backup (see 19.2 on pg. 238), or moved to Quarantine (cf. Section 19.1, p. 235).

Mail Anti-Virus

Email is widely used by hackers to spread malicious programs, and is one of the most common methods of spreading worms. This makes it extremely important to monitor all email.

The *Mail Anti-Virus* component scans all incoming and outgoing email on your computer. It analyzes emails for malicious programs, only granting the addressee access to the email if it is free of dangerous objects.

Web Anti-Virus

Opening various web sites you put your computer at risk for infection with viruses which will be installed using scripts contained in such web pages as well as for downloading dangerous objects.

Web Anti-Virus is specially designed to combat these risks, by intercepting and blocking scripts on web sites if they pose a threat, and by thoroughly monitoring all HTTP traffic.

Proactive Defense

The number of malicious programs grows daily. Such programs become more complex combining several types of threats and modifying delivery routes. They become ever more difficult to detect.

To detect a new malicious program before it has time to do any damage, Kaspersky Lab has developed a special component, *Proactive Defense*. It is designed to monitor and analyze the behavior of all installed programs on your computer. Kaspersky Internet Security decides, based on the program's actions: is it potentially dangerous? Proactive Defense protects your computer both from known viruses and from new ones that have yet to be discovered.

Privacy Control

Various online scams have become common recently (phishing, autodialers, confidential data theft, such as logins and passwords). These actions can do serious financial damage.

Privacy Control traces these online scams on your computer and blocks them. For example, this component will block programs attempting to

perform unauthorized autodialing, analyze web pages for phishing scams, intercept unauthorized access and personal user data downloads.

Firewall

Hackers will use any potential hole to invade your computer, whether it be an open port, data transmissions between computers, etc.

The *Firewall* component protects your computer while you are using the Internet and other networks. It monitors inbound and outbound connections, and scans ports and data packets.

In addition, Firewall blocks unwanted advertisements (banner ads and popup windows), which cuts down the amount of downloaded Internet traffic and saves the user time.

Anti-Spam

Although not a direct threat to your computer, spam increases the load on email servers, fills up your email inbox, and wastes your time, thereby representing a business cost.

The *Anti-Spam* component plugs into your computer's email client program, and scans all incoming email for spam subject matter. The component marks all spam emails with a special header. Anti-Spam can be configured to process spam as you like (auto delete, move to a special folder, etc.).

Parental Control

One of the features of the Internet is the lack of censorship, and consequently many websites contain illegal or unwanted information, or information aimed at an adult audience. More websites containing racism, pornography, violence, use of weapons, and illicit drug use appear every day. Furthermore, these sites often contain a large number of malicious programs that run on your computer when you view them.

Restricting user access to the these websites, especially for minors, is a key task for new information security software.

Parental Control is a component designed to control user access to certain sites on the Internet. This might mean sites with objectionable content or any other sites that the user chooses in the Kaspersky Internet Security settings. Control is exercised not only over the content of requested resources but also over time spent online. Access to the Internet may be granted at certain times and a limit may be placed on the total time spent online in a 24-hour period.

2.2.2. Virus scan tasks

In addition to constantly monitoring all potential pathways for malicious programs, it is extremely important to periodically scan your computer for viruses. This is required to stop the spread of malicious programs not detected by real-time protection components because of the low level of protection selected or for other reasons.

The following tasks are provided by Kaspersky Internet Security to perform virus scans:

Critical Areas

Scans all critical areas of the computer for viruses. These include: system memory, system startup objects, master boot records, *Microsoft Windows* system folders. The objective is quickly to detect active viruses on the system without starting a full computer scan.

My Computer

Scans for viruses on your computer with a through inspection of all disk drives, memory, and files.

Startup Objects

Scans for viruses in all programs that are loaded automatically on startup, plus RAM and boot sectors on hard drives.

Rootkit Scan

Scans the computer for rootkits that hide malicious programs in the operating system. These utilities injected into system, hiding their presence and the presence of processes, folders, and registry keys of any malicious programs described in the configuration of the rootkit.

There is also the option to create other virus-scan tasks and create a schedule for them. For example, you can create a scan task for email databases once per week, or a virus scan task for the **My Documents** folder.

2.2.3. Update

In order to always be on guard for any hacker attack and be ready to delete a virus or some other dangerous program, Kaspersky Internet Security needs real-time support. *Update* is designed to do exactly that. It is responsible for updating databases and application modules utilized by Kaspersky Internet Security.

The update distribution feature enables you to save databases and program modules retrieved from Kaspersky Lab servers to a local folder and then grant access to them to other computers on the network to reduce Internet traffic.

2.2.4. Program tools

Kaspersky Internet Security includes a number of support tools, which are designed to provide real-time software support, expanding the capabilities of the program and assisting you as you go.

Reports and Data Files

At runtime, the application generates a report on each real-time protection component, virus scan task, and application update. It contains information on results and operations performed. Details on any Kaspersky Internet Security component are available through the *Reports* feature. In the event of problems, such reports may be forwarded to Kaspersky Lab for our specialists to take a closer look at the situation and provide assistance as soon as possible.

All suspicious objects are placed by Kaspersky Internet Security in a special area known as *Quarantine* where they are stored in an encrypted format to protect the computer from infection. These objects may be scanned for viruses, restored to the original location, or deleted. Objects may be placed in quarantine manually. All objects found by the scan to be uninfected are automatically restored to their original location.

Backup Storage holds copies of objects disinfected or deleted by the application. These copies are created in case there is a need to restore objects or reconstruct the course of their infection. Backups are also stored in an encrypted format to protect the computer from infection. A backed-up object may be restored to the original location or deleted.

Activation

When purchasing Kaspersky Internet Security, you enter into a licensing agreement with Kaspersky Lab which governs the use of the application as well as your access to application database updates and Technical Support over a specified period of time. The term of use and other information necessary for full functionality of the program are provided in a key file.

Using the Activation feature, you can find detailed information on the key you are using or purchase a new key.

Support

All registered Kaspersky Internet Security users can take advantage of our technical support service. To learn where exactly you can get technical support, use the *Support* feature.

By following these links you can access the Kaspersky Lab user forum or send feedback or an error report to Technical Support by completing a special online form.

You will also be able to access online Technical Support, Personal Cabinet services, and our employees will certainly always be ready to assist you with Kaspersky Internet Security by phone.

2.3. Hardware and software system requirements

For Kaspersky Internet Security 7.0 to run properly, your computer must meet these minimum requirements:

General Requirements:

- 50 MB of free hard drive space
- CD-ROM drive (for installing Kaspersky Internet Security 7.0 from an installation CD)
- Microsoft Internet Explorer 5.5 or higher (for updating databases and application modules through the Internet)
- Microsoft Windows Installer 2.0

Microsoft Windows 2000 Professional (Service Pack 2 or higher), Microsoft Windows XP Home Edition, Microsoft Windows XP Professional (Service Pack 2 or higher), Microsoft Windows XP Professional x64 Edition:

- Intel Pentium 300 MHz processor or faster (or compatible)
- 128 MB of RAM

Microsoft Windows Vista, Microsoft Windows Vista x64:

- Intel Pentium 800 MHz 32-bit (x86)/ 64-bit (x64) or faster (or compatible)
- 512 MB of RAM

2.4. Software packages

You can purchase the boxed version of Kaspersky Internet Security from our resellers, or download it from Internet shops, including the **eStore** section of www.kaspersky.com.

If you buy the boxed version of the program, the package will include:

- A sealed envelope with an installation CD containing the program files
- A User Guide
- The program activation code, attached to the installation CD envelope
- The end-user license agreement (EULA)

Before breaking the seal on the installation disk envelope, carefully read through the EULA.

If you buy Kaspersky Internet Security from an online store, you copy the product from the Kaspersky Lab website (**Downloads → Product Downloads**). You can download the User Guide from the **Downloads → Documentation** section.

You will be sent an activation code by email after your payment has been received.

The End-User License Agreement is a legal agreement between you and Kaspersky Lab that specifies the terms on which you may use the software you have purchased.

Read the EULA through carefully.

If you do not agree with the terms of the EULA, you can return your boxed product to the reseller from whom you purchased it and be reimbursed for the amount you paid for the program. If you do so, the sealed envelope for the installation disk must still be sealed.

By opening the sealed installation disk, you accept all the terms of the EULA.

2.5. Support for registered users

Kaspersky Lab provides its registered users with an array of services to make Kaspersky Internet Security more effective.

When the program has been activated, you become a registered user and will have the following services available until the key expires:

- New versions of the program free of charge
- Consultation on questions regarding installation, configuration, and operation of the program, by phone and email
- Notifications on new Kaspersky Lab product releases and new viruses (this services is for users that subscribe to Kaspersky Lab news mailings)

Kaspersky Lab does not provide technical support for operating system use and operation, or for any products other than its own.

CHAPTER 3. INSTALLING KASPERSKY INTERNET SECURITY 7.0

The application may be installed using an installation wizard (see Section 3.1, p. 31) or the command line (see Section 3.3, p. 44).

When using the wizard, a quick install option may be selected. This install option does not require user interaction: the application will be installed using the default settings recommended by Kaspersky Lab specialists. However, the application will need to be activated at the end of the install.

Custom installation offers the option of selecting the components to be installed, the install location and of activating the application and performing its configuration using a special wizard.

3.1. Installation procedure using the Installation Wizard

Before beginning Kaspersky Internet Security installation, we recommend closing all other applications.

To install Kaspersky Internet Security on your computer, open the Microsoft Windows Installer file on the installation CD.

Note:

Installing the program with an installer package downloaded from the Internet is identical to installing it from an installation CD.

An installation wizard will open for the program. Each window contains a set of buttons for navigating through the installation process. Here is a brief explanation of their functions:

- **Next** – accepts an action and moves forward to the next step of installation.
- **Back** – goes back to the previous step of installation.
- **Cancel** – cancels product installation.

- **Finish** – completes the program installation procedure.

Let's take a closer look at the steps of the installation procedure.

Step 1. Checking for the necessary system conditions to install Kaspersky Internet Security

Before the program is installed on your computer, the installer checks your computer for the operating system and service packs necessary to install Kaspersky Internet Security. It also checks your computer for other necessary programs and verifies that your user rights allow you to install software.

If any of these requirements is not met, the program will display a message informing you of the fault. You are advised to install any necessary service packs through **Windows Update**, and any other necessary programs, before installing Kaspersky Internet Security.

Step 2. Installation Welcome window

If your system fully meets all requirements, an installation window will appear when you open the installer file with information on beginning the installation of Kaspersky Internet Security.

To continue installation, click the **Next** button. To cancel the installation, click **Cancel**.

Step 3. Viewing the End-User License Agreement

The next window contains the End-User License Agreement entered into between you and Kaspersky Lab. Carefully read through it, and if you agree to all the terms of the agreement, select **I accept the terms of the License Agreement** and click the **Next** button. Installation will continue. To cancel the installation, click **Cancel**.

Step 4. Selecting Installation Type

In this step, you are prompted to select installation type:

Quick Install. If this option is selected, Kaspersky Internet Security will be installed using default settings only, as recommended by Kaspersky Lab specialists. At the end of the install, an activation wizard will be started (see Section 3.2.2, p. 36).

Custom Install. Under this option you will be prompted to select the application components to be installed, the installation folder, and to activate as well as configure the installation using a special wizard (see Section 3.2, p. 35).

Under the former option, the install will be performed non-interactively, i. e. subsequent steps described in this section will be skipped. In the latter case, you will be required to enter or confirm certain data.

Step 5. Selecting an installation folder

The next stage of Kaspersky Internet Security installation determines where the program will be installed on your computer. The default path is: **<Drive>\Program Files\Kaspersky Lab\Kaspersky Internet Security 7.0**.

You can specify a different folder by clicking the **Browse** button and selecting it in the folder selection window, or by entering the path to the folder in the field available.

Remember that if you enter the full installation folder name manually, it must not exceed 200 characters or contain special characters.

To continue installation, click the **Next** button.

Step 6. Selecting program components to install

You will only see this step if you select the **Custom** setup type.

If you selected Custom installation, you can select the components of Kaspersky Internet Security that you want to install. By default, all real-time protection and virus scan are selected.

To select the components you want to install, right-click the icon alongside a component name and select **Will be installed on local hard drive** from the context menu. You will find more information on what protection a selected component provides, and how much disk space it requires for installation, in the lower part of the program installation window.

If you do not want to install a component, select **Entire feature will be unavailable** from the context menu. Remember that by choosing not to install a component you deprive yourself of protection against a wide range of dangerous programs.

After you have selected the components you want to install, click **Next**. To return the list to the default programs to be installed, click **Reset**.

Step 7. Disabling the Microsoft Windows firewall

You will only take this step if you are installing the Firewall component of Kaspersky Internet Security on a computer with the built-in *Microsoft Windows* firewall enabled.

In this step, Kaspersky Internet Security asks you if you want to disable the Microsoft Windows Firewall, since the Firewall component of Kaspersky Internet Security provides full firewall protection.

If you want to use Firewall as primary network protection, click **Next**. The Microsoft Windows Firewall will be disabled automatically.

If you want to use the Microsoft Windows Firewall, select **Keep Microsoft Windows Firewall enabled**. Under this option, the Kaspersky Internet Security firewall will be installed, but disabled to avoid program conflicts.

Step 8. Searching for other anti-virus programs

In this stage, the installer searches for other anti-virus products installed on your computer, including Kaspersky Lab products, which could raise compatibility issues with Kaspersky Internet Security.

The installer will display on screen a list of any such programs it detects. The program will ask you if you want to uninstall them before continuing installation.

You can select manual or automatic uninstall under the list of anti-virus applications detected.

If the list of anti-virus programs contains Kaspersky Anti-Virus® Personal or Kaspersky Anti-Virus® Personal Pro, we recommend saving the key file that they use before deleting them, as you can use it as your key for Kaspersky Internet Security 7.0. We also recommend saving Quarantine and Backup objects. These objects will automatically be moved to the Kaspersky Internet Security Quarantine and Backup and you can continue working with them.

To continue installation, click the **Next** button.

Step 9. Finishing Program Installation

In this stage, the program will ask you to finish installing the program on your computer. You can specify whether you would like to import protection settings, application databases, including Anti-Spam databases, if saved on your computer when the previous version of Kaspersky Internet Security was removed.

Let's take a closer look at how to use the options described above.

If a previous version (build) of Kaspersky Internet Security was installed on your computer and application databases have been saved, they may be imported into the version being installed. Check **Application databases**. Databases bundled with the application will not be copied to your computer.

To use protection settings that you configured and saved from a previous version, check **Protection settings**.

It is also recommended that Anti-Spam databases be used as well if such were saved when a previous version was uninstalled. This way, you will not have to retrain Anti-Spam. To take advantage of the databases already created, check **Anti-Spam Databases**.

We do not recommend deselecting the **Enable Self-Defense before installation** when initially installing Kaspersky Internet Security. By enabling the protection modules, you can correctly roll back installation if errors occur while

installing the program. If you are reinstalling the program, we recommend that you deselect this checkbox.

If the application is installed remotely via **Windows Remote Desktop**, we recommend unchecking the flag **Enable Self-Defense before installation**. Otherwise the installation procedure might not complete or complete correctly.

To continue installation, click the **Next** button.

Step 10. Completing the installation procedure

The **Complete Installation** window contains information on finishing the Kaspersky Internet Security installation process.

If installation is completed successfully, a message on the screen will advise you to restart your computer. After restarting your system, the Kaspersky Internet Security Setup Wizard will automatically launch.

If there is no need for restarting your system to complete the installation, click **Next** to go on to the Setup Wizard.

3.2. Setup Wizard

The Kaspersky Internet Security 7.0 Setup Wizard starts after the program has finished installation. It is designed to help you configure the initial program settings to conform to the features and uses of your computer.

The Setup Wizard interface is designed like a standard Microsoft Windows Wizard and consists of a series of steps that you can move between using the **Back** and **Next** buttons, or complete using the **Finish** button. The **Cancel** button will stop the Wizard at any point.

You can skip this initial settings stage when installing the program by closing the Wizard window. In the future, you can run it again from the program interface if you restore the default settings for Kaspersky Internet Security (see 19.9.3 on pg. 276).

3.2.1. Using objects saved with Version 5.0

This wizard window appears when you install the application on top of Kaspersky Anti-Virus 5.0. You will be asked to select what data used by version 5.0 you want to import to version 7.0. This might include quarantined or backup files or protection settings.

To use this data in Version 7.0, check the necessary boxes.

3.2.2. Activating the program

Before activating the program, make sure that the computer's system date settings match the actual date and time.

The activation procedure consists in installing a key used by Kaspersky Internet Security to verify the license to use the application and its expiration date.

The key contains system information necessary for all the program's features to operate, and other information:

- Support information (who provides program support and where you can obtain it)
- Key name, number, and expiration date

Warning!

You must have an Internet connection to activate the program. If you are not connected to the Internet during installation, you can activate the program (see Chapter 18, p. 232) later from the program interface.

3.2.2.1. Selecting a program activation method

There are several options for activating the program, depending on whether you have a key for Kaspersky Internet Security or need to obtain one from the Kaspersky Lab server:

- **Activate using the activation code**. Select this activation option if you have purchased the full version of the program and were provided with an activation code. Using this activation code you will obtain a key file providing access to the application's full functionality throughout the effective term of the license agreement.
- **Activate trial version**. Select this activation option if you want to install a trial version of the program before making the decision to purchase the commercial version. You will be provided with a free key with a limited trial period as defined in the appropriate license agreement.
- **Apply existing key**. Activate the application using the key file for Kaspersky Internet Security 7.0.
- **Activate later**. If you choose this option, you will skip the activation stage. Kaspersky Internet Security 7.0 will be installed on your computer and you will have access to all program features except updates (you can only update the application once after installation).

3.2.2.2. Entering the activation code

To activate the program, you must enter the activation code. When the application is purchased through the Internet, the activation code is sent to you via e-mail. In case of purchasing the application on a physical medium, the activation code is printed on the installation disk.

The activation code is a sequence of numbers, divided by hyphens into four groups of five symbols without spaces. For example, 11111-11111-11111-11111. Please note that the activation code must be entered in Latin characters.

Enter you client number and password at the bottom of the window if you have gone through the Kaspersky Lab client registration procedure and have this information. Leave the fields blank if you have not registered yet. This way the activation wizard will request your contact information and perform registration in the next step. At the end of registration you will be assigned a client number and a password which are required to obtain technical support. When using the activation wizard to register, the client number may be viewed in the **Support** section of the application main window (cf. Section 19.10, p. 278).

3.2.2.3. User Registration

This step of the activation wizard requires you to provide your contact information: email address, city and country of residence. This information is required for Kaspersky Lab Technical Support to identify you as a registered user.

After the information is entered, it will be sent by the activation wizard to an activation server, and you will be assigned a client ID and a password for the Personal Cabinet on the Technical Support web site. Information on client ID is available under **Support** (cf. Section 19.10, p. 278) in the application main window.

3.2.2.4. Obtaining a Key File

The Setup Wizard connects to Kaspersky Lab servers and sends them your registration data (the activation code and personal information) for inspection.

If the activation code passes inspection, the Wizard receives a key file. If you install the demo version of the program, the Setup Wizard will receive a trial key file without an activation code.

The file obtained will be installed into the application automatically, and an “activation complete” window will be displayed for you with detailed information on the key being used.

If the activation code does not pass inspection, an information message will be displayed on the screen. If this occurs, contact the software vendors from whom you purchased the program for more information.

3.2.2.5. Selecting a Key File

If you have a key file for Kaspersky Internet Security 7.0, the Wizard will ask if you want to install it. If you do, use the **Browse** button and select the file path for the file with the *.key* extension in the file selection window.

Following successful key installation, current key information will be displayed at the bottom of the window: owner name, key code, key type (commercial, for beta testing, trial, etc.), and expiration date.

3.2.2.6. Completing program activation

The Setup Wizard will inform you that the program has been successfully activated. It will also display information on the license key installed: owner name, key code, key type (commercial, for beta testing, trial, etc.), and expiration date.

3.2.3. Selecting a security mode

In this window, the Settings Wizard asks you to select the security mode that the program will operated with:

Basic. This is the default setting and is designed for users, who do not have extensive experience with computers or anti-virus software. It implies that application components are set to their recommended security level and that the user is informed only of dangerous events (such as, detection of a malicious object, dangerous activity).

Interactive. This mode provides more customized defense of your computer's data than Basic mode. It can trace attempts to alter system settings, suspicious activity in the system, and unauthorized activity on the network. All of the activities listed above could be signs of malicious programs or standard activity for some of the programs you use on your computer. You will have to decide for each separate case whether those activities should be allowed or blocked.

If you choose this mode, specify when it should be used:

Enable Firewall Training Mode – ask for user decisions when programs installed on your computer attempt to connect to a certain network resource. You can either allow or block that connection and configure an Firewall rule for that program. If you disable Training Mode, Firewall runs with minimal

protection settings, meaning that it grants all applications access to network resources.

Enable system registry monitoring – ask for user decision if attempts to alter system registry keys are detected.

> If the application is installed on a computer running Microsoft Windows XP Professional x64 Edition, Microsoft Windows Vista or Microsoft Windows Vista x64, the interactive mode settings listed below will not be available.

Enable Application Integrity Control – prompt user to confirm actions taken when modules are loaded into applications being monitored.

Enable extended proactive defense – enable analysis of all suspicious activity in the system, including opening browser with command line settings, loading into program processes, and window hooks (these settings are disabled by default).

3.2.4. Configuring update settings

Your computer's security depends directly on updating databases and program modules on a regular basis. In this window, the Setup Wizard asks you to select a mode for program updates, and to configure a schedule.

Automatically. Kaspersky Internet Security checks the update source for update packages at specified intervals. Scans can be set to be more frequent during virus outbreaks and less so when they are over. When the program detects fresh updates, it downloads them and installs them on the computer. This is the default setting.

Every 1 day(s). Updates will run automatically according to the schedule created. You can configure the schedule by clicking **Change**.

Manually. If you choose this option, you will run program updates yourself.

Note that databases and program modules included with the software may be outdated by the time you install the program. That is why we recommend downloading the latest program updates. To do so, click **Update now**. Then Kaspersky Internet Security will download the necessary updates from the update servers and will install them on your computer.

To configure updates (select update source, run updates under a specified login, or activate update download to a local source), click the **Settings** button.

3.2.5. Configuring a virus scan schedule

Scanning selected areas of your computer for malicious objects is one of the key steps in protecting your computer.

When you install Kaspersky Internet Security, three default virus scan tasks are created. In this window, the Setup Wizard asks you to choose a scan task setting:

Scan startup objects

Kaspersky Internet Security scans startup objects automatically when it is started by default. You can edit the schedule settings in another window by clicking **Change**.

Scan critical areas

To automatically scan critical areas of your computer (system memory, Startup objects, boot sectors, Microsoft Windows system folders) for viruses, check the appropriate box. You can configure the schedule by clicking **Change**.

The default setting for this automatic scan is disabled.

Full computer scan

For a full virus scan of your computer to run automatically, check the appropriate box. You can configure the schedule by clicking **Change**.

The default setting, for scheduled running of this task, is disabled. However, we recommend running a full virus scan of your computer immediately after installing the program.

3.2.6. Restricting program access

Since several people with different levels of computer literacy might use a personal computer, and since malicious programs can disable protection, you have the option of password-protecting access to Kaspersky Internet Security. Using a password can protect the program from unauthorized attempts to disable protecting or change settings.

To enable password protection, check **Enable password protection** and complete the **New password** and **Confirm** fields.

Select the area below that you want password protection to apply to:

- **All operations (except notifications of dangerous events)**. Request password if the user attempts any action with the program, except for responses to notifications on detection of dangerous objects.

Selected operations:

- **Modifying program settings:** request password when a user attempts to save changes to program settings.
- **Exiting the program** – request password if a user attempts to exit the program.
- **Stopping/Pausing Protection Components and Virus Scan Tasks:** request password when a user attempts to pause or completely shut down a real-time protection component or a virus scan task.

3.2.7. Application Integrity Control

In this stage, the Kaspersky Internet Security wizard will analyze the applications installed on your computer (dynamic library files, digital manufacture signatures), count application checksum files, and create a list of programs that can be trusted from a virus security perspective. For example, this list will automatically include all applications digitally signed by Microsoft.

In the future, Kaspersky Internet Security will use information obtained while analyzing application structure to prevent malicious code from being imbedded in application modules.

Analyzing the applications installed on your computer may take some time.

3.2.8. Configuring Firewall settings

Firewall is the Kaspersky Internet Security component that guards your computer on local networks and the Internet. At this stage, the Setup Wizard asks you to create a list of rules that will guide Firewall when analyzing your computer's network activity.

3.2.8.1. Determining a security zone's status

In this stage, the Setup Wizard analyzes your computer's network environment. Based on its analysis, the entire network space is broken down into zones:

Internet – the World Wide Web. In this zone, Kaspersky Internet Security operates as a personal firewall. In doing so, default rules for packet filtering and applications regulate all network activity to ensure maximum security. You cannot change protection settings when working in this zone, other than enabling Stealth Mode on your computer for added safety.

Security zones – certain zones that often correspond with subnets that include your computer (this could be local subnets at home or at work).

These zones are by default average risk-level zones. You can change the status of these zones based on how much you trust a certain subnet, and you can configure rules for packet filtering and applications.

All the zones detected will be displayed in a list. Each of them is shown with a description, their address and subnet mask, and the degree to which any network activity will be allowed or blocked by Firewall.

- **Internet**. This is the default status assigned to the Internet, since when you are connected to it, your computer is subjected to all potential threat types. This status is also recommended for networks that are not protected by any anti-virus programs, firewalls, filters, etc. When you select this status, the program ensures maximum security while you are using this zone, specifically:
  - blocking any network NetBios activity within the subnet
  - blocking rules for applications and packet filtering that allow NetBios activity within this subnet

  Even if you have created a shared folder, the information in it will not be available to users from subnetworks with this status. Additionally, if this status is selected for a certain subnetwork, you will not be able to access files and printers of this subnetwork.
- **Local Network**. The program assigns this status to the majority of security zones detected when it analyzes the computer's network environment, **except** the Internet. It is recommended to apply this status to zones with an average risk factor (for example, corporate LANs). If you select this status, the program allows:
  - any network NetBios activity within the subnet
  - rules for applications and packet filtering that allow NetBios activity within this subnet

  Select this status if you want to grant access to certain folders or printers on your computer, but want to block all other outside activity.
- **Trusted.** This status is given to networks that you feel are absolutely safe, so that your computer is not subject to attacks and attempts to gain access to your data while connected to it. When you are using this type of network, all network activity is allowed. Even if you have selected Maximum Protection and have created block rules, they will not function for remote computers from a trusted network.

You can use *Stealth Mode* for added security when using networks labeled **Internet**. This feature only allows network activity initiated from your computer, meaning that your computer becomes invisible to its surroundings. This mode does not affect your computer's performance on the Internet.

We do not recommend using Stealth Mode if you use your computer as a server (for example, a mail or HTTP server), as the computers that attempt to connect to the server will not see it as connected.

To change the status of a zone or to enable/disable Stealth Mode, select the zone from the list, and use the appropriate links in the **Rule description** box below the list. You can perform similar tasks and edit addresses and subnet masks in the **Zone Settings** window, which you can open by clicking **Edit**.

You can add a new zone to the list while viewing it. To do so, click **Refresh**. Firewall will search for available zones, and if it detects any, the program will ask you to select a status for them. In addition, you can add new zones to the list manually (if you connect your laptop to a new network, for example). To do so, use the **Add** button and fill in the necessary information in the **Zone Settings** window.

To delete a network from the list, click the **Delete** button.

3.2.8.2. Creating a list of network applications

The Setup Wizard analyzes the software installed on your computer and creates a list of applications that use network connections.

Firewall creates a rule to control network activity for each such application. The rules are applied using templates for common network applications, created at Kaspersky Lab and included with the software.

You can view the list of network applications and their rules in the Firewall settings window, which you can open by clicking **Applications**.

For added security, we recommend disabling DNS caching when using Internet resources. DNS caching drastically cuts down on the time your computer is connected to this valuable Internet resource; however, it is also a dangerous vulnerability, and by exploiting it, hackers can create data leaks that cannot be traced using the firewall. Therefore, to increase the degree of security for your computer, you are advised to disable DNS caching.

3.2.9. Finishing the Setup Wizard

The last window of the Wizard will ask if you want to restart your computer to complete the program installation. You must restart for Kaspersky Internet Security drivers to register.

You can wait to restart, but if you do, some of the program's protection components will not work.

3.3. Installing the program from the command prompt

To install Kaspersky Internet Security, enter this at the command prompt:

```
msiexec /i <package_name>
```

The Installation Wizard will start (see 3.1 on pg. 31). Once the program is installed, you must restart the computer.

You can also use one of the following methods when installing the application.

To install the application in the background without restarting the computer (the computer should be restarted manually after installation), enter:

```
msiexec /i <package_name> /qn
```

To install the application in the background and then restart the computer, enter:

```
msiexec /i <package_name> ALLOWREBOOT=1 /qn
```

CHAPTER 4. PROGRAM INTERFACE

Kaspersky Internet Security has a straightforward, user-friendly interface. This chapter will discuss its basic features:

- System tray icon (see 4.1 on pg. 45)
- Context menu (see 4.2 on pg. 46)
- Main window (see 4.3 on pg. 48)
- Program settings window (see 4.4 on pg. 51)

In addition to the main program interface, there are plug-ins for the following applications:

- Microsoft Office Outlook – virus scans (see 8.2.2 on pg. 101) and spam scans (see 13.3.8 on pg. 186)
- Microsoft Outlook Express (Windows Mail) (see 13.3.9 on pg. 189)
- The Bat! – virus scans (see 8.2.3 on pg. 102) and spam scans (see 13.3.10 on pg. 190)
- Microsoft Internet Explorer (cf. Section 12.1.3, p. 179)
- Microsoft Windows Explorer (see 15.2 on pg. 203)

The plug-ins extend the functionality of these programs by making Kaspersky Internet Security management and settings possible from their interfaces.

4.1. System tray icon

As soon as you install Kaspersky Internet Security, its icon will appear in the system tray.

The icon is an indicator for Kaspersky Internet Security functions. It reflects the protection status and shows a number of basic functions performed by the program.

If the icon is active (color), this means that your computer is being protected. If the icon is inactive (black and white), this means that protection is either fully stopped or that some protection components (see 2.2.1 on pg. 24) are paused.

The Kaspersky Internet Security icon changes in relation to the operation being performed:

Emails are being scanned.

Scripts are being scanned.

A file that you or some program is opening, saving, or running is being scanned.

Kaspersky Internet Security databases and program modules are being updated.

An error has occurred in some Kaspersky Internet Security component.

The icon also provides access to the basics of the program interface: the context menu (see 4.2 on pg. 46) and the main window (see 4.3 on pg. 48).

To open the context menu, right-click on the program icon.

To open the Kaspersky Internet Security main window at the **Protection** section (this is the default first screen when you open the program), double-click the program icon. If you single-click the icon, the main window will open at the section that was active when you last closed it.

If news from Kaspersky Lab is available, the following icon will appear in the taskbar. Double click the icon to view the news in the resulting window.

4.2. The context menu

You can perform basic protection tasks from the context menu (see Figure 1).

The Kaspersky Internet Security menu contains the following items:

Scan My Computer – launches a complete scan of your computer for dangerous objects. The files on all drives, including removable storage media, will be scanned.

Virus Scan: select objects and start virus scan. The default list contains a number of files, such as the **My Documents** folder, the Startup folder, email databases, all the drives on your computer, etc. You can add to the list, select files to be scanned, and start virus scans.

Update: start Kaspersky Internet Security, module, and database updates and install updates on your computer.

Network Monitor – view the list of network connections established, open ports, and traffic.

Block network traffic – temporarily block all the computer's network connections. When you select this item from the menu, the Firewall security level (see 12.1.1.1 on pg. 142) will change to **Block all**. If you want to allow the computer to interact with the network repeatedly, select this item from the context menu.

Activate – activate the program. You must activate your version of Kaspersky Internet Security to obtain registered user status which provides access to the full functionality of the application and Technical Support. This menu item is only available if the program is not activated.

Settings – view and configure settings for Kaspersky Internet Security.

Open Kaspersky Internet Security – open the main program window (see 4.3 on pg. 48).

Pause Protection / Resume Protection – temporarily disable or enable real-time protection components (see 2.2.1 on pg. 24). This menu item does not affect program updates or virus scan tasks.

About the program - calls up a window with info about Kaspersky Internet Security.

Exit – close Kaspersky Internet Security (when this option is selected, the application will be unloaded from the computer's RAM).

Figure 1. The context menu

If a virus search task is running, the context menu will display its name with a percentage progress meter. By selecting the task, you can open the report window to view current performance results.

4.3. Main program window

The Kaspersky Internet Security main window (see Figure 2) can be logically divided into three parts:

- upper part of window indicates your computer's current protection status.

  There are three possible protection states (see Section 5.1, p. 53) each with its own color code much like a traffic light. Green indicates that your computer is properly protected while yellow and red are indications of various problems in Kaspersky Internet Security configuration or operation.

  To obtain detailed troubleshooting information and speedy problem resolution, use the Security Wizard which opens when the security threat notification link is clicked.

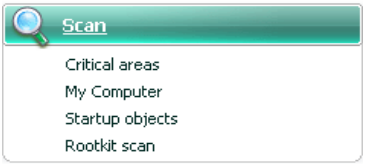
Figure 2. Kaspersky Internet Security main window

- *Navigation Pane (left part of window):* provides fast and easy access to any component, virus scan task execution, updates, application support functionality;
- the right part of the window, the *information* panel, contains information on the protection component selected in the left part of the window and displays settings for each of them, giving you tools to carry out virus scans, work with quarantined files and backup copies, manage license keys, and so on.

After selecting a section or component in the left part of the window, you will find information in the right-hand part that matches your selection.

We will now examine the elements in the main window's navigation panel in greater detail.

Main Window Section	Purpose
	The primary purpose of the Protection section is to provide access to your computer's basic real-time protection components. To view the status of a protection component or its modules, to configure its settings or open a relevant report, select this component from the list under **Protection**. This section also contains links that provide access to the most common tasks: virus scan and application database updates. You can view information on the status of these tasks, configure them, or run them.

	The **Scan** section provides access to virus scan tasks for objects. It shows tasks created by Kaspersky Lab experts, (virus scan of critical areas, startup objects, full computer scan, rootkit scan), as well as user tasks. When a task is selected from the right pane, relevant task information is provided, task settings may be configured, a list of objects to be scanned is generated, or the task is run. To scan a single object (file, folder, or drive), select **Scan**, use the right pane to add the object to the list to be scanned, and run the task. In addition, this section may be used to create a recovery disk (see Section 19.4, p. 259).
	The **Update** section contains information on application updates: database publication date and virus signature record count. Appropriate links may be used to start an update, view a detailed report, configure updates, roll an update back to a previous version.
	Reports and data files may be used to view a detailed report on any application component, a virus scan or update task (see Section 19.3, p. 240), and work with objects placed in quarantine (see Section 19.1, p. 235) or backup storage (see Section 19.2, p. 238).

	The **Activation** section is used to handle keys required for the applications to be fully functional (see Section 19.5, p. 262). If a key is not installed, it is recommended that it be purchased without delay and that the application be activated (see Section 3.2.2, p. 36). If a key is installed, this section shows information on the type of key used and its expiration date. Once a current key expires, it may be renewed at the Kaspersky Lab website.
	The **Support** section provides information on Technical Support available to Kaspersky Internet Security registered users.

Each element of the navigation panel is accompanied by a special context menu. The menu contains points for the protection components that help the user quickly configure them, manage them, and view reports. There is an additional menu item for virus scan tasks that allows you to create your own task, by modifying a copy of an existing task.

You can change the appearance of the program by creating and using your own graphics and color schemes.

The lower left-hand side of the window houses two buttons: **Help**, which provides access to the Kaspersky Internet Security help system, and **Settings**, which opens the application settings window.

4.4. Program settings window

You can open the Kaspersky Internet Security settings window from the main window (see 4.3 on pg. 48) or the application context menu (see Section 4.2, p. 46). Click on **Settings** in the lower section of the main window or select the appropriate option in the application context menu.

The settings window (see Figure 3) is similar in layout to the main window:

- the left part of the window gives you quick and easy access to the settings for each application component, update, virus search task, and application setting;

- the right part of the window contains a detailed list of settings for the item selected in the left part of the window.

When you select any section, component, or task in the left part of the settings window, the right part will display its basic settings. To configure advanced settings, you can open second and third level settings windows. You can find a detailed description of program settings in the sections of the user guide.

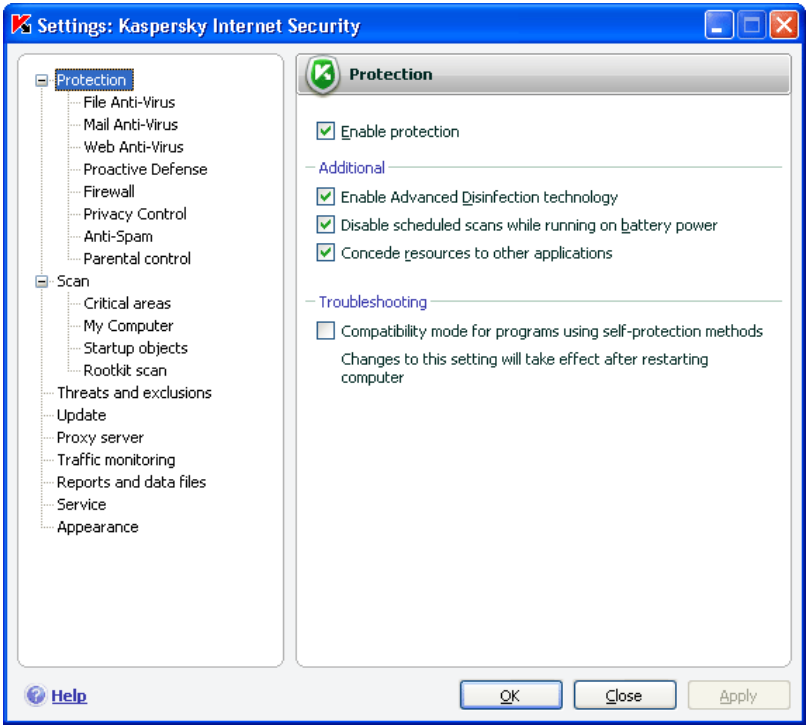


Figure 3. Kaspersky Internet Security settings window

CHAPTER 5. GETTING STARTED

One of Kaspersky Lab's main goals in creating Kaspersky Internet Security was to provide optimum configuration for each of the program's options. This makes it possible for a user with any level of computer literacy to quickly protect their computer straight after installation.

However, configuration details for your computer, or the jobs you use it for, can have their own specific requirements. That is why we recommend performing a preliminary configuration to achieve the most flexible, personalized protection of your computer.

To make getting started easier, we have combined all the preliminary configuration stages in one Setup Wizard (see 3.2 on pg. 35) that starts as soon as the program is installed. By following the Wizard's instructions, you can activate the program, configure settings for updates and virus scans, password-protect access to the program, and configure Firewall to match your network's properties.

After installing and starting the program, we recommend that you take the following steps:

- Check the current protection status (see 5.1 on pg. 53) to make sure that Kaspersky Internet Security is running at the appropriate level.
- Train Anti-Spam (see 5.6 on pg. 58) using your emails.
- Update the program (see 5.7 on pg. 59) if the Settings Wizard did not do so automatically after installing the program.
- Scan the computer (see 5.3 on pg. 56) for viruses.

5.1. What is the computer's protection status?

Protection status is displayed at the top of the application main window and is color coded like a traffic light. Depending on the situation, the color motif of the top section of the window will change, and in the event of security threats the color will be supplemented by information messages implemented as links to the Security Wizard.

The following color codes are used to show protection status:

- Application Main Window is *green*. This status is an indication that your computer is properly protected.

  Which means that the databases have been updated in a timely manner, all protection components are activated, the application is running with the settings recommended by Kaspersky Lab specialists, no malicious objects were discovered by a full computer scan, or such malicious objects were disabled.

- Application Main Window is *yellow*. Your computer's protection level is lower than previously. This protection status is indicative of certain problems with the application or application settings.

  There are, for example, certain small deviations from the recommended mode of operation, application databases have not been updated in several days, Anti-Spam has not been trained.

- Application Main Window is *red*. This status points to problems that could lead to your computer being infected and to data loss. For example, one or more protection components have failed, the product has not been updated in a long time or malicious objects have been discovered and urgently need to be disabled, the product has not been activated.

If there are problems in the protection system, we recommend fixing them immediately. Use the Security Wizard which will be accessed by clicking the notification of security threats. The security wizard will help you look through all the current threats in order and will take you to the appropriate place to remove them. The criticality of the threat is depicted by the color of the indicator:

- *the indicator is directing your attention to non-critical threats* that may, however, lower the overall protection level on your computer. Please pay heed to the recommendations from Kaspersky Lab specialists.

- *the indicator is showing that there are serious threats to* your computer's security. Please carefully follow the recommendations below. They are all aimed at better protecting your computer. The recommended actions are given as links.

To browse the list of existing threats, click the Next button. A detailed description is given of each threat and the following courses of action are available:

- *Eliminate threat immediately*. By using the corresponding links, you can directly eliminate the threat. For in-depth information on events related to this threat, you can view the report file. The recommended action is immediately eliminating the threat.

- *Postpone threat elimination*. If for any reason you cannot immediately eliminate the threat, you can postpone that action and come back to it later. To do so, use the Postpone link.

  Note that this option is not available for serious threats. Such threats include, for example, malicious objects that cannot be disinfected, crashes in components, or corrupted program database files.

If you still have threats left after you have finished the Security Wizard, a reminder will appear in the upper part of the main window telling you that you need to eliminate them. If you open the Security Wizard again, the postponed threats will not be on the list of active threats. However, you can still come back to view and eliminate postponed threats by clicking the View threats with postponed decisions link in the final window of the wizard.

5.2. Verifying the Status of Each Individual Protection Component

To view the current status of any individual real-time protection component, open the application main window and select the desired component under **Protection**. Summary information on the selected component will be shown on the right.

Component status is the most important indicator:

- <*component name*>*: running* – protection provided by the component in question is at the desired level.
- <*component name*> *: Pause* – component is disabled for a period of time. Component will restart automatically after the specified period of time or after the application is restarted. Component may be activated manually. Click **Resume operation**.
- <*component name*> *: stopped* – the component has been stopped by the user. Protection can be re-enabled by clicking **Enable**.
- <*component name*> *: not running* – protection provided by the component in question is not available for some reason.
- <*component name*> *: disabled (error)* – component exited following and error.

If a component encounters an error, try restarting it. If restart should result in an error, review the component report which might contain the reason for the failure. If you are unable to troubleshoot the issue on your own, save the component

report to a file using **Action** → **Save As** and contact Kaspersky Lab Technical Support.

Component status may be followed by information on settings being used by the component (such as, security level, action to be applied to dangerous objects). If a component consists of more than one module, module status is displayed: enabled or disabled. To edit current component settings, click **Configure**.

In addition, certain component runtime statistics are displayed. To view a detailed report click on Open report.

If for some reason a component is paused or stopped at a given moment in time, its results at the time of deactivation may be viewed by clicking Open last start report.

5.3. How to scan your computer for viruses

After installation, the application will without fail inform you with a special notice in the lower left-hand part of the application window that the computer has not yet been scanned and will recommend that you scan it for viruses immediately.

Kaspersky Internet Security includes a task for a computer virus scan located in the **Scan** section of the program's main window.

Selecting the **My Computer** task will display task settings: current security level, action to take with respect to malicious objects. A report of the latest scan is also available.

To scan your computer for malicious programs,

1. Select the **My Computer** task under **Scan** in the application main window.
2. Click the **Start Scan** link.

As a result, the program will start scanning your computer, and the details will be shown in a special window. When you click the **Close** button, the window with information about installation progress will be hidden; this will not stop the scan.

5.4. How to scan critical areas of the computer

There are areas on your computer that are critical from a security perspective. These are the targets of malicious programs aimed at damaging your operating system, processor, memory, etc.

It is extremely important to protect these critical areas so that your computer keeps running. There is a special virus scan task for these areas, which is located in the program's main window in the **Scan** section.

Selecting the **Critical Areas** will display task settings: current security level, the action to be applied to malicious objects. Here you can also select which critical areas you want to scan, and immediately scan those areas.

To scan critical areas of your computer for malicious programs,

1. Select the **Critical Areas** task under **Scan** in the application main window.
2. Click the **Start Scan** link.

When you do this, a scan of the selected areas will begin, and the details will be shown in a special window. When you click the **Close** button, the window with information about installation progress will be hidden. This will not stop the scan.

5.5. How to scan a file, folder or disk for viruses

There are situations when it is necessary to scan individual objects for viruses but not the entire computer. For example, one of the hard drives, on which your programs and games, e-mail databases brought home from work, and archived files that came with e-mail are located, etc. You can select an object for scan with the standard tools of the Microsoft Windows operating system (for example, in the **Explorer** program window or on your **Desktop**, etc.).

To scan an object,

Place the cursor over the name of the selected object, open the Microsoft Windows context menu by right-clicking, and select **Scan for viruses** (see Figure 4).

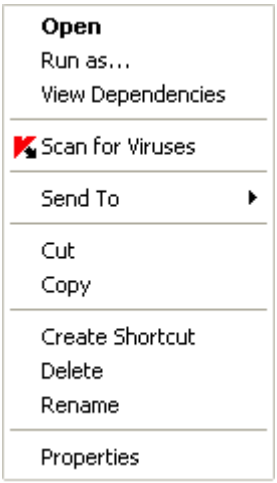


Figure 4. Scanning an object selected using
a standard Microsoft Windows context-sensitive menu

A scan of the selected object will then begin, and the details will be shown in a special window. When you click the **Close** button, the window with information about installation progress will be hidden. This will not stop the scan.

5.6. How to train Anti-Spam

One step in getting started is training Anti-Spam to work with your emails and filter out junk. Spam is junk email, although it is difficult to say what constitutes spam for a given user. While there are email categories which can be applied to spam with a high degree of accuracy and generality (for example, mass emailings, advertisements), such emails could belong in the inbox of some users.

Therefore, we ask that you determine for yourself what email is spam and what isn't. Kaspersky Internet Security will ask you after installation if you want to train Anti-Spam to differentiate between spam and accepted email. You can do this with special buttons that plug into your email client (Microsoft Office Outlook, Microsoft Outlook Express (Windows Mail), The Bat!) or using the special training wizard.

Warning!

This version of Kaspersky Internet Security does not provide Anti-Spam plug-ins for the 64-bit mail clients Microsoft Office Outlook, Microsoft Outlook Express and The Bat!

To train Anti-Spam using the plug-in's buttons in the email client,

1. Open your computer's default email client (e.g. Microsoft Office Outlook). You will see two buttons on the toolbar: **Spam** and **Not Spam**.
2. Select an accepted email or group of emails that contains accepted email and click **Not Spam**. From this point onward, emails from the addresses in the emails from the senders you selected will never be processed as spam.
3. Select an email, a group of emails, or a folder of emails that you consider spam, and click **Spam**. Anti-Spam will analyze the contents of these emails, and in the future it will consider all emails with similar contents to be spam.

To train Anti-Spam using the Training Wizard,

select the **Anti-Spam** component under **Protection** in the left pane of the application main window and click on **Start Training Wizard** (see Section 13.2.1, p. 172)

When an email arrives in your inbox, Anti-Spam will scan it for spam content and add a special [Spam] tag to the subject line of spam. You can configure a special rule in your email client for these emails, such as a rule that deletes them or moves them to a special folder.

5.7. How to update the program

Kaspersky Lab updates databases and modules for Kaspersky Internet Security using dedicated update servers.

Kaspersky Lab's update servers are the Kaspersky Lab Internet sites where the program updates are stored.

Warning!

You will need a connection to the Internet to update Kaspersky Internet Security.

By default, Kaspersky Internet Security automatically checks for updates on the Kaspersky Lab servers. If the server has the latest updates, Kaspersky Internet Security will download and install them in the silent mode.

To update Kaspersky Internet Security manually,

1. Select the **Update** section in the application main window.
2. Click on **Update databases**.

As a result, Kaspersky Internet Security will begin the update process, and display the details of the process in a special window.

5.8. What to do if protection is not running

If problems or errors arise in the performance of any protection component, be sure to check its status. If the component status is *not running* or *running (subsystem malfunction)*, try restarting the program.

If the problem is not solved after restarting the program, we recommend correcting potential errors using the application restore feature (**Start→Programs→ Kaspersky Internet Security 7.0 →Modify, restore, or remove**).

If the application restore procedure does not help, contact Kaspersky Lab Technical Support. You may need to save a report on component operation to file and send it to Technical Support for further study.

To save component report to file:

1. Select component under **Protection** in the application main window and click on **Open Report** (component currently running) or **Open Last Start Report** (component disabled).
2. In the report window, click **Actions → Save as** and in the window that opens, specify the name of the file in which the report will be saved.

CHAPTER 6. PROTECTION MANAGEMENT SYSTEM

This section provides information on configuring common application settings used by all real-time protection components and tasks as well as information on creating protection scopes and lists of threats to be handled by the application and a list of trusted objects to be overlooked by protection:

- management of real-time protection (see Section 6.1, p. 61);
- utilization of Advanced Disinfection Technology (see Section 6.4, p. 66);
- running tasks on a portable computer (see Section 6.3, p. 66);
- cooperation of Kaspersky Internet Security with other applications (see Section 6.4, p. 66);
- compatibility of Kaspersky Internet Security with self-defense features of other application (see Section 6.5, p. 66);
- list of threats (see Section 6.8, p. 70) protection from which will be provided by the application;
- list of trusted objects (see Section 6.9, p. 71) which will be overlooked by protection.

6.1. Stopping and resuming real-time protection on your computer

By default, Kaspersky Internet Security boots at startup and protects your computer the entire time you are using it. The words *Kaspersky Internet Security 7.0* in the upper right-hand corner of the screen let you know this. All real-time protection components (see 2.2 on pg. 24) are running.

You can fully or partially disable the protection provided by Kaspersky Internet Security.

Warning!

Kaspersky Lab strongly recommend that you **not disable real-time protection**, since this could lead to an infection on your computer and consequent data loss.

Note that in this case protection is discussed in the context of the protection components. Disabling or pausing protection components does not affect the performance of virus scan tasks or program updates.

6.1.1. Pausing protection

Pausing real-time protection means temporarily disabling all the protection components that monitor the files on your computer, incoming and outgoing email, executable scripts, application behavior, Firewall, Anti-Spam, and Parental Control.

To pause a computer real-time protection:

1. Select **Pause protection** in the program's context menu (see 4.2 on pg. 46).
2. In the **Pause protection** window that opens (see Figure 5), select how soon you want protection to resume:
   - **In <time interval>** – protection will be enabled this amount of time later. To select a time value, use the drop-down menu.
   - **At next program restart** – protection will resume if you open the program from the Start Menu or after you restart your computer (provided the program is set to start automatically on startup (cf. Section 19.11, p. 280).
   - **By user request only** – protection will stop until you start it yourself. To enable protection, select **Resume protection** from the program's context menu.

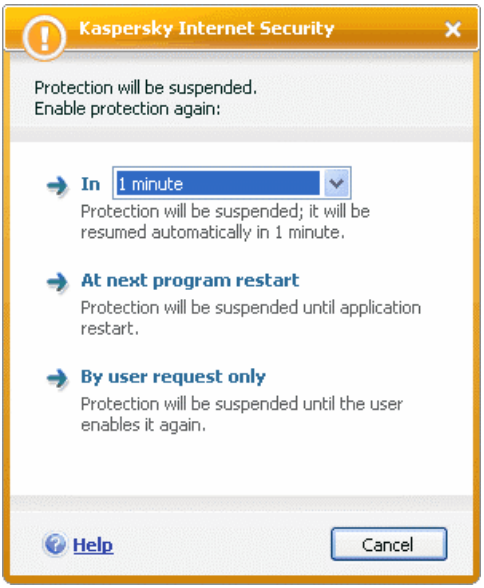

Kaspersky Internet Security
Protection will be suspended.
Enable protection again:
In
1 minute
Protection will be suspended; it will be resumed automatically in 1 minute.
At next program restart
Protection will be suspended until application restart.
By user request only
Protection will be suspended until the user enables it again.
Help
Cancel

Figure 5. Pause protection window

If you pause protection, all real-time protection components will be paused. This is indicated by:

- Inactive (gray) names of the disabled components in the **Protection** section of the main window.
- Inactive (gray) system tray icon.

6.1.2. Stopping protection

Stopping protection means fully disabling your real-time protection components. Virus scans and updates continue to work in this mode.

If protection is stopped, it can be only be resumed by the user: protection components will not automatically resume after system or program restarts. Remember that if Kaspersky Internet Security is somehow in conflict with other programs installed on your computer, you can pause individual components or create an exclusion list (see Section 6.9, p. 84).

To stop all real-time protection:

1. Open the application settings window and select **Protection**.
2. Uncheck **Enable protection**.

Once protetion is disabled, all protection components will stop. This is indicated by:

- Inactive (gray) names of the disabled components in the **Protection** section of the main window.
- Inactive (gray) system tray icon.

6.1.3. Pausing / Stopping Individual Protection Components

There are several ways to stop a protection component. Before doing so, you are strongly advised to establish why you need to stop it. It is likely that the problem can be solved in another way, for example, by changing the security level. If, for example, you are working with a database that you are sure does not contain viruses, simply add its files as an exclusion (see 6.9 on pg. 71).

To pause an individual protection component:

Open the application main window, select component under Protection and click Pause.

Component status will change to ***paused***. The component will be paused until the application is restarted or until the component is reactivated by clicking Resume operation.

When you pause the component, statistics for the current Kaspersky Internet Security session are saved and will continue to be recorded after the component is updated.

To stop an individual protection component:

Open the application main window, select component under Protection and click Stop.

Component status will then change to *disabled* while component name under Protection will become inactive (grayed out). Protection offered by the component in question will be disabled until re-enabled by clicking Enable.

Any protection component may also be shut down from the application settings window. Open the settings window, select component under protection, and uncheck ☑ **Enable <component name>**.

When a protection component is disabled, all the statistics from previous work are cleared and when the component is started they are recorded over.

Individual protection components are also disabled if your computer's real-time protection is stopped (see Section 6.1.2, p. 63).

6.1.4. Restoring protection on your computer

If at some point you paused or stopped real-time protection on your computer, you can resume it using one of the following methods:

- *From the context menu*.

  To do so, select **Resume protection**.

- *From the program's main window*.

  Select the **Protection** section in the left-hand side of the main window and click Enable Protection.

The protection status immediately changes to ***running***. The program's system tray icon becomes active (color).

6.2. Advanced Disinfection Technology

Advanced malware can infiltrate the lowest levels of the operating system which makes them practically impossible to remove. When an active threat is discovered on the system, Kaspersky Internet Security 7.0 suggests a special extended disinfection procedure which will disable and remove the threat from the computer.

Once the procedure is complete, the computer will have to be restarted. It is recommended that a full virus scan be initiated after the computer is restarted. To engage the Advanced Disinfection procedure, open the application settings window, select **Protection**, and check ☑ **Enable Advanced Disinfection Technology** (cf. Figure 6).

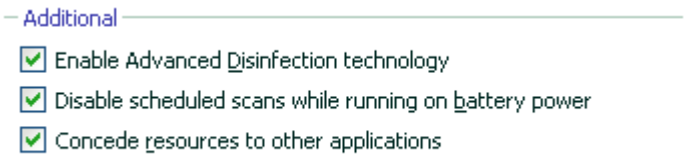

Additional
Enable Advanced Disinfection technology
Disable scheduled scans while running on battery power
Concede resources to other applications

Figure 6. Configuring common settings

6.3. Running Application on a Portable Computer

Virus scan tasks may be postponed to save battery on a portable computer.

Since scanning a computer for viruses and updating the program frequently requires significant resources and time, we recommend that such tasks be scheduled. This will allow you to save battery life. You will be able to update the application (see Section 5.7, p. 59) or run a virus scan (see Section 5.3, p. 56) manually, as needed. To save battery life, open the application settings window, select **Protection,** and check **Disable scheduled scans while running on battery power** under **Additional** (cf. Figure 6).

6.4. Runtime Computer Performance

To limit CPU and storage subsystem loads, virus scan tasks may be postponed.

Scanning for viruses increases CPU and storage subsystem loads thereby slowing other programs down. If this should happen, the application will suspend virus scanning by default and make resources available for user applications.

However, there are a number of programs which start execution as CPU resources become available and run in the background. To make virus scans independent of such programs, open the application settings window, select **Protection,** and check **Concede resources to other applications** under **Additional** (cf. Figure 6).

It should be noted that this setting may be configured for each individual virus scan task. The individual task setting will have higher priority.

6.5. Troubleshooting Kaspersky Internet Security Compatibility with Other Applications

Running Kaspersky Internet Security may sometimes create conflicts with other installed applications. This is related to these applications being equipped with a built-in self-defense mechanism which is triggered by Kaspersky Internet Security attempting to integrate with them. These applications include the Authentica plugin for Adobe Reader, which verifies access to pdf documents, Oxygen Phone Manager II for cell phone management as well as certain tamper-proof games.

To resolve this issue, open the application settings window, select **Protection,** and check **Compatibility Mode for Programs Using Self-Protection Methods** under **Compatibility** (cf. Figure 7). The operating system must be rebooted for these changes to take effect.

It must be noted, however, that with the option checked the Privacy Control Anti-Dialer module will not work. When Anti-Dialer is activated, compatibility mode will be deactivated automatically. Following activation, Anti-Dialer will not run until the application is rebooted.

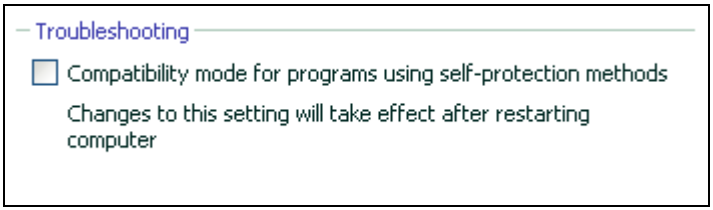

Troubleshooting
Compatibility mode for programs using self-protection methods
Changes to this setting will take effect after restarting computer

Figure 7. Configuring Compatibility Settings

6.6. Running Virus Scans and Updates as Another User

Kaspersky Internet Security 7.0 has a feature that can start scan tasks under another user profile (impersonation). This feature is by default disabled, and tasks are run as the current user.

The feature is useful if for example, you need access rights to a certain object during a scan. By using this feature, you can configure tasks to run under a user that has the necessary privileges.

Program updates may be made from a source to which you do not have access (for example, the network update folder) or authorized user rights for a proxy server. You can use this feature to run the Updater with another profile that has those rights.

To configure a scan task to run as a different user:

1. Open application settings window and select the task under **Scan**.
2. Click on **Customize** under **Security Level** and open the **Additional** tab in the resulting dialog.

To configure an update task to run as another user

1. Open application settings window and select **Update**.
2. Click on **Configure** under **Update Settings** and open the **Additional** tab in the resulting dialog (cf. Figure 8).

To enable this feature, check **Run this task as**. Enter the data for the login that you want to start the task as below: user name and password.

Please note that unless the Run As capability is used, scheduled updates will run as the current user. In the event that no one is logged into the system and the Run As feature is not configured, a scheduled update will run as SYSTEM.

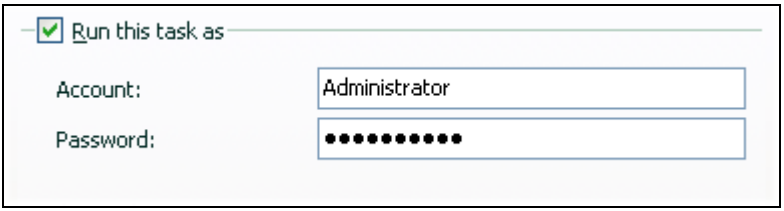


Figure 8. Configuring an update task from another profile

6.7. Configuring Scheduled Tasks and Notifications

Scheduling configuration is the same for virus scan tasks, application updates, and Kaspersky Internet Security runtime messages.

By default, the virus scan tasks created at application install are disabled. The only exception is a scan of startup objects which is run every time Kaspersky Internet Security is started. Updates are configured to occur automatically by default as updates become available on Kaspersky Lab update servers.

In the event that you are not satisfied with these settings, you may reconfigure the scheduling.

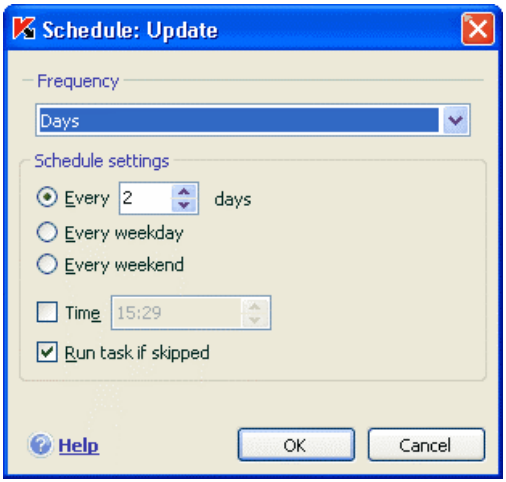


Figure 9. Creating Task Execution Schedule

The primary value to define is the frequency of an event (task execution or notification). Select the desired option under **Frequency** (cf. Figure 9). Then, update settings for the selected option must be specified under **Update Settings**. The following selection is available:

- **At a specified time**. Run task or send notification on the specified date and at the specified time.
- **At application startup**. Run task or send notification every time Kaspersky Internet Security is started. A time delay to run the task after the application is started may also be specified .
- **After each update**. Task is run after each application database update (this option only applies to virus scan tasks).
- **Minutely**. Time interval between task runs or notifications is several minutes. Set time interval in minutes under schedule settings. It should not exceed 59 minutes.
- **Hours.** Interval between task runs and notifications is several hours. If this option is selected, specify the time interval under schedule settings: **Every N hours** and set *N*. For hourly runs, for example, specify **Every 1 hours**.
- **Days**. Tasks will be started or notifications sent every few days. Specify the interval length in the schedule settings:

  1. Select **Every N days** and specify *N*, if you wish to keep an interval of a certain number of days.
  2. Select **Every weekday**, if you wish to run tasks daily Monday through Friday.

3. Select **Every weekend** to run tasks on Saturdays and Sundays only.

   Use the **Time** field to specify what time of day the scan task will be run.

Weeks. Tasks will be run or notifications sent on certain days of the week. If this frequency is selected, check the days of the week the tasks will be run under schedule settings. Use the **Time** field to set the time.

Monthly. Tasks will be started or notifications sent once a month at a specified time.

If a task cannot run for some reason (an email program is not installed, for example, or the computer was shut down at the time), the task can be configured to run automatically as soon as it becomes possible. Check **Run Task if Skipped** in the schedule window.

6.8. Types of Malware to Monitor

Kaspersky Internet Security protects you from various types of malicious programs. Regardless of your settings, the program always scans and neutralizes viruses, Trojans, and hack tools. These programs can do significant damage to your computer. To make your computer more secure, you can expand the list of threats that the program will detect by making it monitor additional types of dangerous programs.

To choose what malicious programs Kaspersky Internet Security will protect you from, select the application settings window and select **Threats and exclusions** (cf. Figure 10).

The **Malware categories** box contains threat types:

Viruses, worms, Trojans, hack tools. This group combines the most common and dangerous categories of malicious programs. This is the minimum admissible security level. Per recommendations of Kaspersky Lab experts, Kaspersky Internet Security always monitors this category of malicious programs.

Spyware, adware, dialers. This group includes potentially dangerous software that may inconvenience the user or incur serious damage.

Potentially dangerous software (riskware). This group includes programs that are not malicious or dangerous. However, under certain circumstances they could be used to cause harm to your computer.

The groups listed above comprise the full range of threats which the program detects when scanning objects.

If all groups are selected, Kaspersky Internet Security provides the fullest possible anti-virus protection for your computer. If the second and third groups are disabled, the program will only protect you from the commonest malicious programs. This does not include potentially dangerous programs and others that

could be installed on your computer and could damage your files, steal your money, or take up your time.

Kaspersky Lab does not recommend disabling monitoring for the second group. If a situation arises when Kaspersky Internet Security classifies a program that you do not consider dangerous as a potentially dangerous program, we recommend creating an exclusion for it (see 6.9 on pg. 71).

To select the types of malware to monitor,

open the application settings window and select **Threats and exclusions**. Configuration is performed under **Malware Categories** (see Figure 10).

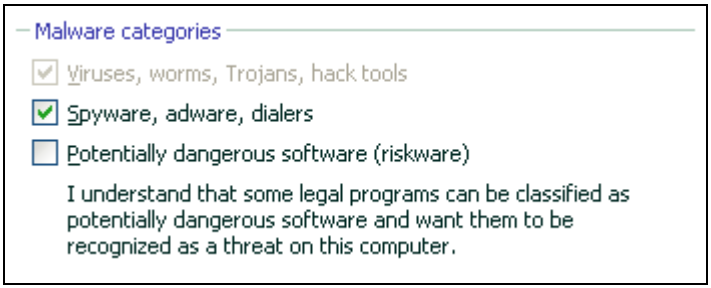

Malware categories
Viruses, worms, Trojans, hack tools
Spyware, adware, dialers
Potentially dangerous software (riskware)
I understand that some legal programs can be classified as potentially dangerous software and want them to be recognized as a threat on this computer.

Figure 10. Selecting Threats to Monitor

6.9. Creating a trusted zone

A *trusted zone* is a list of objects created by the user, that Kaspersky Internet Security does not monitor. In other words, it is a set of programs excluded from protection.

The user creates a trusted zone based on the properties of the files he uses and the programs installed on his computer. You might need to create such an exclusion list if, for example, Kaspersky Internet Security blocks access to an object or program and you are sure that the file or program is absolutely safe.

You can exclude files of certain formats from the scan, use a file mask, or exclude a certain area (for example, a folder or a program), program processes, or objects according to Virus Encyclopedia threat type classification (the status that the program assigns to objects during a scan).

Warning!

Excluded objects are not subject to scans when the disk or folder where they are located are scanned. However, if you select that object in particular, the exclusion rule will not apply.

To create an exclusion list

1. Open the application settings window and select the **Threats and exclusions** section (cf. Figure 10).
2. Click the **Trusted Zone** button under **Exclusions**.
3. Configure exclusion rules for objects and create a list of trusted applications in the window that opens (see Figure 11).

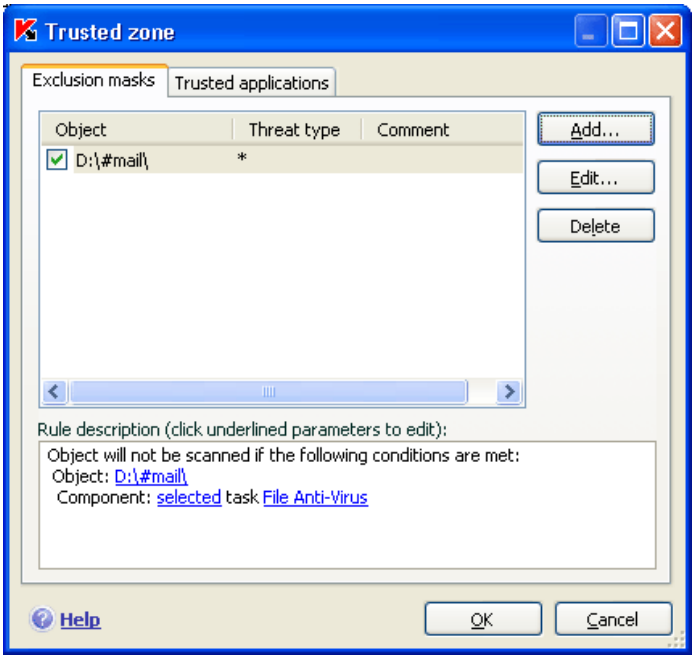


Figure 11. Creating a trusted zone

6.9.1. Exclusion rules

Exclusion rules are sets of conditions that Kaspersky Internet Security uses to determine not to scan an object.

You can exclude files of certain formats from the scan, use a file mask, or exclude a certain area, such as a folder or a program, program processes, or objects according to their Virus Encyclopedia threat type classification.

The *Threat type* is the status that Kaspersky Internet Security assigns to an object during the scan. A verdict is based on the classification of malicious and potentially dangerous programs found in the Kaspersky Lab Virus Encyclopedia.

Potentially dangerous software does not have a malicious function but can be used as an auxiliary component for a malicious code, since it contains holes and errors. This category includes, for example, remote administration programs, IRC clients, FTP servers, all-purpose utilities for stopping or hiding processes, keyloggers, password macros, autodialers, etc. These programs are not classified as viruses. They can be divided into several types, e.g. Adware, Jokes, Riskware, etc. (for more information on potentially dangerous programs detected by Kaspersky Internet Security, see the Virus Encyclopedia at www.viruslist.com). After the scan, these programs may be blocked. Since several of them are very common, you have the option of excluding them from the scan. To do so, you must add threat name or mask to the trusted zone using the Virus Encyclopedia classification.

For example, imagine you use a Remote Administrator program frequently in your work. This is a remote access system with which you can work from a remote computer. Kaspersky Internet Security views this sort of application activity as potentially dangerous and may block it. To keep the application from being blocked, you must create an exclusion rule that specifies *not-a-virus:RemoteAdmin.Win32.RAdmin.22* as a threat type.

When you add an exclusion, a rule is created that several program components (File Anti-Virus, Mail Anti-Virus, Proactive Defense, Privacy Control module for the Protection of Confidential Data) and virus scan tasks can later use. You can create exclusion rules in a special window that you can open from the program settings window, from the notice about detecting the object, and from the report window.

*To add exclusions on the **Exclusion Masks** tab:*

1. Click on the **Add** button in the **Exclusion Masks** window (see Figure 13).
2. In the window that opens (see Figure 12), click the exclusion type in the **Properties** section:

   Object – exclusion of a certain object, directory, or files that match a certain mask from scan.

   Threat type – excluding an object from the scan based on its status from the Virus Encyclopedia classification.

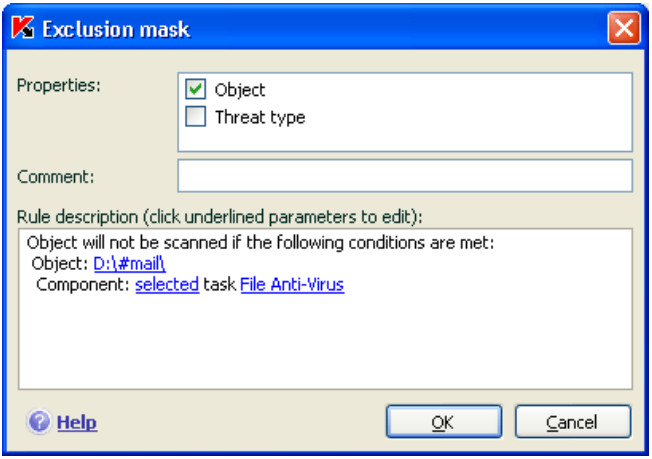


Figure 12. Creating an exclusion rule

If you check both boxes at once, a rule will be created for that object with a certain status according to Virus Encyclopedia threat type classification. In such case, the following rules apply:

- If you specify a certain file as the **Object** and a certain status in the **Threat type** section, the file specified will only be excluded if it is classified as the threat selected during the scan.
- If you select an area or folder as the **Object** and the status (or verdict mask) as the **Threat type**, then objects with that status will only be excluded when that area or folder is scanned.

3. Assign values to the selected exclusion types. To do so, left-click in the **Rule description** section on the specify link located next to the exclusion type:

   - For the **Object** type, enter its name in the window that opens (this can be a file, a particular folder, or a file mask (see A.2 on pg. 304). Check **Include subfolders** for the object (file, file mask, folder) to be recursively excluded from the scan. For example, if you assign **C:\Program Files\winword.exe** as an exclusion and checked the subfolder option, the file **winword.exe** will be excluded from the scan if found in any **C:\Program Files** subfolders.
   - Enter the full name of the threat that you want to exclude from scans as given in the Virus Encyclopedia or use a mask (see A.3 on pg. 304) for the **Threat type**.

     For some threat type, you can assign advanced conditions for applying rules in the **Advanced settings** field (see A.3 on

pg. 304). In most cases, this field is filled in automatically when you add an exclusion rule from a Proactive Defense notification.

You can add advanced settings for the following verdicts, among others:

- *Invader* (injects into program processes). For this verdict, you can give a name, mask, or complete path to the object being injected into (for example, a .dll file) as an additional exclusion condition.
- *Launching Internet Browser*. For this verdict, you can list browser open settings as additional exclusion settings. For example, you blocked browsers from opening with certain settings in the Proactive Defense application activity analysis. However, you want to allow the browser to open for the domain *www.kasperky.com* with a link from Microsoft Office Outlook as an exclusion rule. To do so, select Microsoft Office Outlook as **Object** and *Launching Internet Browser* as the **Threat Type**, and enter an allowed domain mask in the **Advanced settings** field.

4. Define which Kaspersky Internet Security components will use this rule. If any is selected as the value, this rule will apply to all components. If you want to restrict the rule to one or several components, click on any, which will change to selected. In the window that opens, check the boxes for the components that you want this exclusion rule to apply to.

To create an exclusion rule from a program notice stating that it has detected a dangerous object:

1. Use the Add to trusted zone link in the notification window (see Figure 13).
2. In the window that opens, be sure that all the exclusion rule settings match your needs. The program will fill in the object name and threat type automatically, based on information from the notification. To create the rule, click **OK**.

To create an exclusion rule from the report window:

1. Select the object in the report that you want to add to the exclusions.
2. Open the context menu and select **Add to trusted zone** (see Figure 14).
3. The exclusion settings window will then open. Be sure that all the exclusion rule settings match your needs. The program will fill in the object name and threat type automatically based on the information from the report. To create the rule, click **OK**.

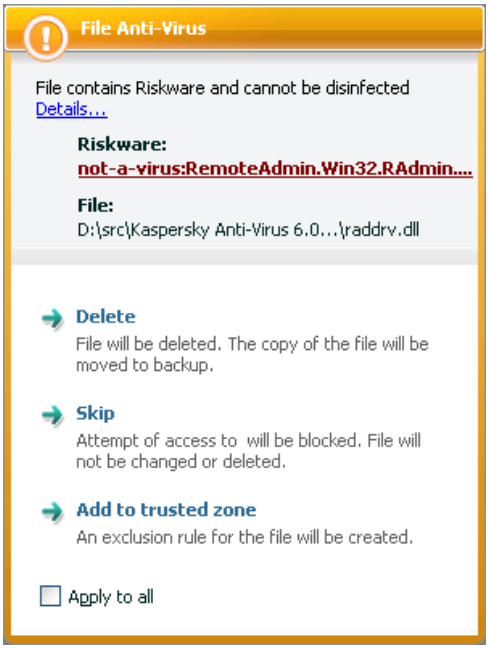

File Anti-Virus
File contains Riskware and cannot be disinfected
Details...
Riskware:
not-a-virus:RemoteAdmin.Win32.RAdmin....
File:
D:\src\Kaspersky Anti-Virus 6.0...\raddrv.dll
Delete
File will be deleted. The copy of the file will be moved to backup.
Skip
Attempt of access to will be blocked. File will not be changed or deleted.
Add to trusted zone
An exclusion rule for the file will be created.
Apply to all

Figure 13. Dangerous object detection notification

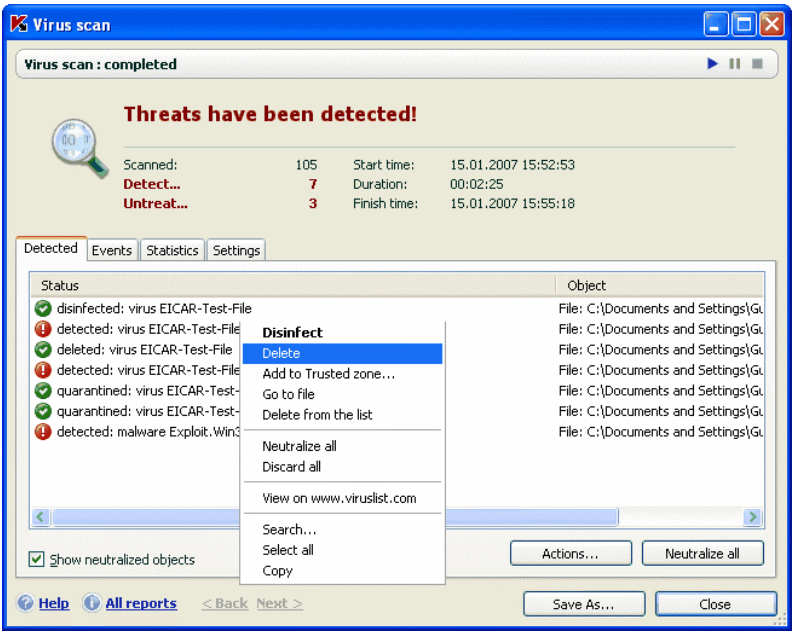


Figure 14. Creating an exclusion rule from a report

6.9.2. Trusted applications

Kaspersky Internet Security provides the capability to create a list of trusted applications whose activity, suspicious or otherwise, or file, network, and system registry access, is not monitored.

For example, you feel that objects and processes used by Microsoft Windows Notepad are safe and do not need to be scanned. To exclude objects used by this process from scanning, add Notebook to the trusted applications list. However, the executable file and the trusted application process will be scanned for viruses as before. To fully exclude the application from scanning, you must use exclusion rules (see 6.9.1 on pg. 72).

In addition, some actions classified as dangerous are perfectly normal features for a number of programs. For example, keyboard layout toggling programs regularly intercept text entered on your keyboard. To accommodate such programs and stop monitoring their activity, you are advised to add them to the trusted application list.

Excluding trusted applications can also solve potential compatibility conflicts between Kaspersky Internet Security and other applications (for example,

network traffic from another computer that has already been scanned by the anti-virus application) and can boost computer productivity, which is especially important when using server applications.

By default, Kaspersky Internet Security scans objects opened, run, or saved by any program process and monitors the activity of all programs and the network traffic they create.

You can create a list of trusted applications on the special **Trusted Applications** tab (see Figure 15). The default list created at install time contains trusted applications whose activity is not scanned as recommended by Kaspersky Lab. If you do not trust an application on the list, deselect the corresponding checkbox. You can edit the list using the **Add**, **Edit**, and **Delete** buttons on the right.

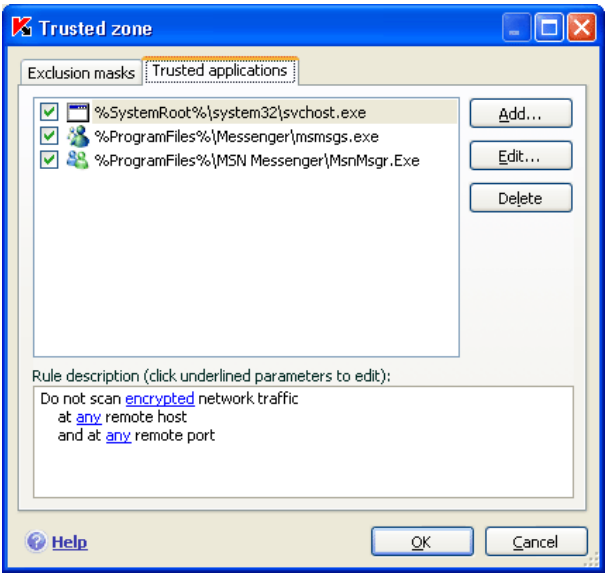


Figure 15. Trusted application list

To add a program to the trusted application list:

1. Click the **Add** button on the right-hand side of the **Trusted Applications** tab.
2. In the **Trusted Applications** window (see fig. Figure 16) that opens, select the application using the **Browse** button. A context menu will open, and by clicking **Browse** you can go to the file selection window and select the path to the executable file, or by clicking **Applications** you can go to a list of applications currently running and select them as necessary.

When you select a program, Kaspersky Internet Security records the internal attributes of the executable file and uses them to identify the trusted program during scans.

The file path is inserted automatically when you select its name.

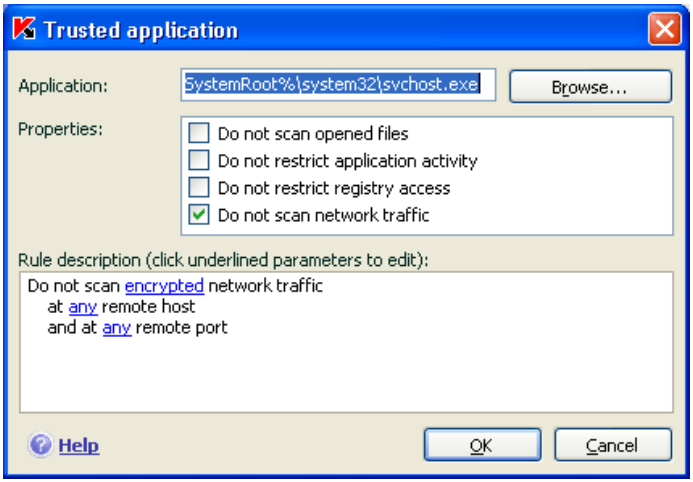


Figure 16. Adding an application to the trusted list

3. Specify which actions performed by this process will not be monitored:

   Do not scan opened files – excludes from the scan all files that the trusted application process.

   Do not control restrict application activity – excludes from Proactive Defense monitoring any activity, suspicious or otherwise, that the trusted application performs.

   Do not control restrict registry access – excludes from scanning any accesses of the system registry initiated by the trusted application.

   Do not scan network traffic – excludes from scans for viruses and spam any network traffic initiated by the trusted application. You can exclude all the application's network traffic or encrypted traffic (SSL) from the scan. To do so, click the all link. It will change to encrypted. In addition you can restrict the exclusion by assigning a remote host/port. To create a restriction, click any, which will change to selected, and enter a value for the remote port/host.

Note that if **Do not scan network traffic** is checked, traffic for that application will only be scanned for viruses and spam. However, this does not affect whether Firewall scans traffic. Firewall settings govern analysis of network activity for that application.

CHAPTER 7. FILE ANTI-VIRUS

The Kaspersky Internet Security component that protect your computer files against infection is called *File Anti-Virus.* It loads when you start your operating system, runs in your computer's RAM, and scans all files opened, saved, or executed.

The component's activity is indicated by the Kaspersky Internet Security system tray icon, which looks like this whenever a file is being scanned.

By default, File Anti-Virus *only scans new or modified files*, i. e. files that have been added or modified since last access. Files are scanned with the following algorithm:

1. The component intercepts attempts by users or programs to access any file.
2. File Anti-Virus scans the iChecker™ and iSwift™ databases for information on the file intercepted. A decision is made whether to scan the file based on the information retrieved.

The scanning process includes the following steps:

1. The file is analyzed for viruses. Malicious objects are detected by comparison with the application databases, which contain descriptions of all malicious programs, threats, and network attacks known to date, with methods for neutralizing them.
2. After the analysis, there are three available courses of action:
    a. If malicious code is detected in the file, File Anti-Virus blocks the file, places a copy of it in *Backup*, and attempts to disinfect the file. If the file is successfully disinfected, it becomes available again. If not, the file is deleted.
    b. If code is detected in a file that appears to be malicious but there is no guarantee, the file is subject to disinfection and is sent to *Quarantine*.
    c. If no malicious code is discovered in the file, it is immediately restored.

7.1. Selecting a file security level

File Anti-Virus protects files that you are using at one of the following levels (see Figure 17):

- **Maximum Protection** – the level with the most comprehensive monitoring of files opened, saved, or run.
- **Recommended** – Kaspersky Lab recommends this settings level. It will scan the following object categories:
  - Programs and files by contents
  - New objects and objects modified since the last scan
  - Embedded OLE objects
- **High Speed** – level with settings that let you comfortably use applications that require significant system resources, since the scope of files scanned is reduced.

Figure 17. File Anti-Virus security level

The default setting for File Anti-Virus is **Recommended**.

You can raise or lower the protection level for files you use by either selecting the level you want, or changing the settings for the current level.

To change the security level:

Adjust the sliders. By adjusting the security level, you define the ratio of scan speed to the total number of files scanned: the fewer files are scanned for viruses, the higher the scan speed.

If none of the set file security levels meet your needs, you can customize and the protection settings. To do so, select the level that is closest to what you need as a starting point and edit its settings. This will change the name of the security level to **Custom**. Let us look at an example when preconfigured security level settings may need to be modified.

Example:

The work you do on your computer uses a large number of file types, and some the files may be fairly large. You would not want to run the risk of skipping any files in the scan because of the size or extension, even if this would somewhat affect the productivity of your computer.

Tip for selecting a level:

Based on the source data, one can conclude that you have a fairly high risk of being infected by a malicious program. The size and type of the files being handled is quite varied and skipping them in the scan would put your data at risk. You want to scan the files you use by contents, not by extension.

You are advised to start with the **Recommended** security level and make the following changes: remove the restriction on scanned file sizes and optimize File Anti-Virus operation by only scanning new and modified files. Then the scan will not take up as many system resources so you can comfortably use other applications.

To modify the settings for a security level:

1. Open the application settings window and select **File Anti-Virus** under **Protection**.
2. Click on **Customize** under **Security Level** (see Figure 17).
3. Edit file protection parameters in the resulting window and click **OK**.

7.2. Configuring File Anti-Virus

Your settings determine how File Anti-Virus will defend your computer. The settings can be broken down into the following groups:

- Settings that define what file types (see 7.2.1 on pg. 84) are to be scanned for viruses
- Settings that define the scope of protection (see 7.2.2 on pg. 86)
- Settings that define how the program responds to dangerous objects (see 7.2.6 on pg. 93)
- Settings defining the use of heuristic methods (cf. Section 7.2.4, p. 90)
- Additional File Anti-Virus settings (see 7.2.3 on pg. 88)

The following sections will examine these groups in detail.

7.2.1. Defining the file types to be scanned

When you select file types to be scanned, you establish what file formats, sizes, and what drives will be scanned for viruses when opened, executed, or saved.

To make configuration easier, all files are divided into two groups: *simple* and *compound*. Simple files, for example, .txt files, do not contain any objects. Compound objects can include several objects, each of which may in turn contain other objects. There are many examples: archives, files containing macros, spreadsheets, emails with attachments, etc.

The file types scanned are defined in the **File types** section (see Figure 18). Select one of the three options:

- **Scan all files**. With this option selected, all file system objects that are opened, run, or saved will be scanned without exceptions.
- **Scan programs and documents (by content)**. If you select this group of files, File Anti-Virus will only scan potentially infected files – files that a virus could imbed itself in.

  > Note:
  >
  > There are a number of file formats that have a fairly low risk of having malicious code injected into them and subsequently being activated. An example would be .txt files.
  >
  > And vice versa, there are file formats that contain or can contain executable code. Examples would be the formats .exe, .dll, or .doc. The risk of injection and activation of malicious code in such files is fairly high.

  Before searching for viruses in a file, its internal header is analyzed for the file format (txt, doc, exe, etc.). If the analysis shows that the file format cannot be infected, it is not scanned for viruses and is immediately returned to the user. If the file format can be infected, the file is scanned for viruses.

- **Scan programs and documents (by extension)**. If you select this option, File Anti-Virus will only scan potentially infected files, but the file format will be determined by the filename's extension. Using the extension link, you can review a list of file extensions (see A.1 on pg. 301) that are scanned with this option.

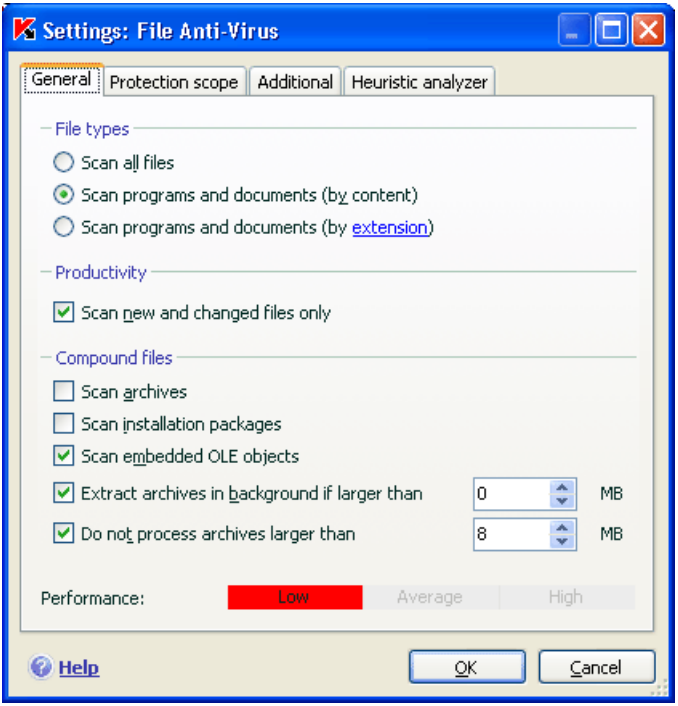


Figure 18. Selecting the file types scanned for viruses

Tip:

Do not forget that someone could send a virus to your computer with an extension (e.g. .txt) that is actually an executable file renamed as a .txt file. If you select **Scan programs and documents (by extension)**, the scan would skip such a file. If **Scan programs and documents (by content)** is selected, the extension is ignored, and analysis of the file headers will uncover that the file is an .exe file. File Anti-Virus would thoroughly scan the file for viruses.

In the **Productivity** section, you can specify that only new files and those that have been modified since the previous scan should be scanned for viruses. This mode noticeably reduces scan time and increases the program's performance speed. To select this mode, check **Scan new and changed files only**. This mode applies to both simple and compound files.

In the **Compound Files** section, specify which compound files to scan for viruses:

Scan archives – scans .zip, .cab, .rar, and .arj archives.

- **Scan installation packages** – scans self-extracting archives for viruses.
- **Scan embedded OLE objects** – scans objects imbedded in files (for example, Microsoft Office Excel spreadsheets or macros imbedded in a Microsoft Office Word file, email attachments, etc.).

You can select and scan all files, or only new files, for each type of compound file. To do so, left-click the link next to the name of the object to toggle its value. If the **Productivity** section has been set up only to scan new and modified files, you will not be able to select the type of compound files to be scanned.

To specify compound files that should not be scanned for viruses, use the following settings:

- **Extract archives in background if larger than... MB**. If the size of a compound object exceeds this restriction, the program will scan it as a single object (by analyzing the header) and will return it to the user. The objects that it contains will be scanned later. If this option is not checked, access to files larger than the size indicated will be blocked until they have been scanned.
- **Do not process archives larger than... MB**. With this option checked, files larger than the size specified will be skipped by the scan.

7.2.2. Defining protection scope

By default, File Anti-Virus scans all files when they are used, regardless of where they are stored, whether it be a hard drive, CD/DVD-ROM, or flash drive.

You can limit the scope of protection. To do so:

1. Open the application settings window and select **File Anti-Virus** under **Protection**.
2. Click the **Customize** button in the **Security Level** area (see Figure 17).
3. Select **Protection Scope** tab in the resulting dialog (see Figure 21).

The tab displays a list of objects that File Anti-Virus will scan. Protection is enabled by default for all objects on hard drives, removable media, and network drives connected to your computer. You can add to and edit the list using the **Add, Edit,** and **Delete** buttons.

If you want to protect fewer objects, you can do so using the following methods:

1. Specify only folders, drives, and files that need to be protected.
2. Create a list of objects that do not need to be protected.
3. Combine methods one and two – create a protection scope that excludes a number of objects.

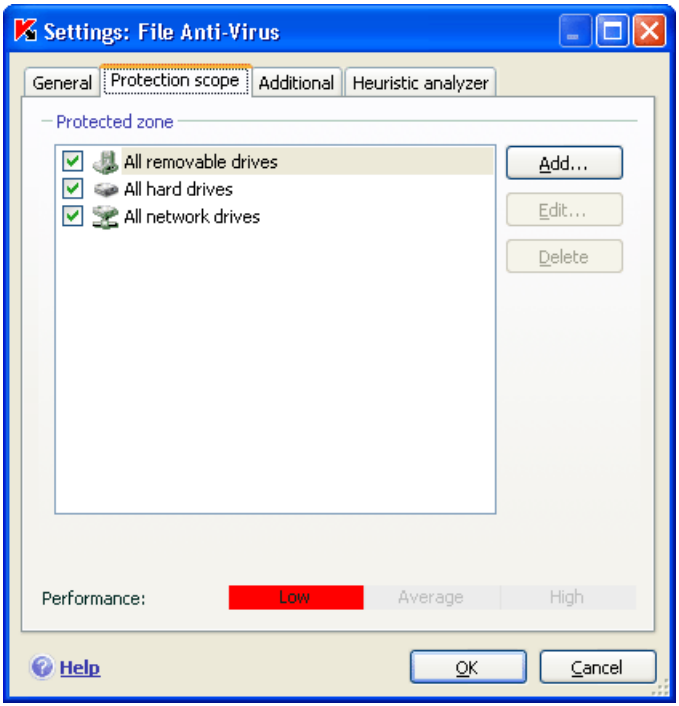


Figure 19. Creating a protected zone

You can use masks when you add objects for scanning. Note that you can only enter masks will absolute paths to objects:

- **C:\dir*.*** or **C:\dir*** or **C:\dir** – all files in folder *C:\dir*
- **C:\dir*.exe** – all files with the extension .exe in the folder *C:\dir*
- **C:\dir*.ex?** – all files with the extension .ex? in the folder *C:\dir*, where ? can represent any one character
- **C:\dir\test** – only the file *C:\dir\test*

In order for the scan to be carried out recursively, check **Include subfolders**.

Warning!

Remember that File Anti-Virus will scan only the files that are included in the protection scope created. Files not included in that scope will be available for use without being scanned. This increases the risk of infection on your computer.

7.2.3. Configuring advanced settings

As additional File Anti-Virus settings, you can specify the file system scanning mode and configure the conditions for temporarily pausing the component.

To configure additional File Anti-Virus settings:

1. Open the application settings window and select **File Anti-Virus** under **Protection**.
2. Click the **Customize** button in the **Security Level** area (cf. Figure 17).
3. Select **Additional** tab in the resulting dialog (see Figure 21).

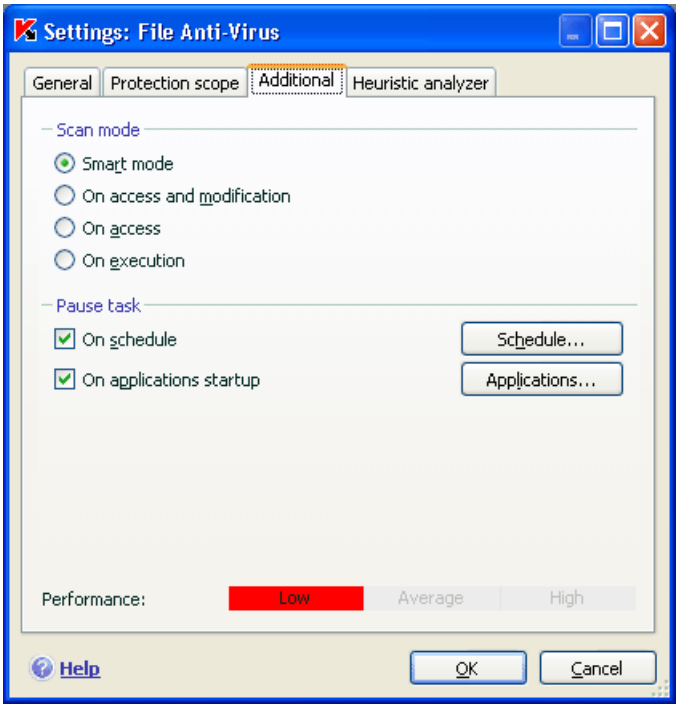


Figure 20. Configuring additional File Anti-Virus settings

The file scanning mode determines the File Anti-Virus processing conditions. You have following options:

- **Smart mode**. This mode is aimed at speeding up file processing and return them to the user. When it is selected, a decision to scan is made based on analyzing the operations performed with the file.

For example, when using a Microsoft Office file, Kaspersky Internet Security scans the file when it is first opened and last closed. All operations in between that overwrite the file are not scanned.

Smart mode is the default.

- **On access and modification** – File Anti-Virus scans files as they are opened or edited.
- **On access** – only scans files when an attempt is made to open them.
- **On execution** – only scans files when an attempt is made to run them.

You might need to pause File Anti-Virus when performing tasks that require significant operating system resources. To lower the load and ensure that the user regains access to files quickly, we recommend configuring the component to disable at a certain time or while certain programs are used.

To pause the component for a certain length of time, check **On schedule** and in the window that opens (see Figure 5) click **Schedule** to assign a time frame for disabling and resuming the component. To do so, enter a value in the format HH:MM in the corresponding fields.

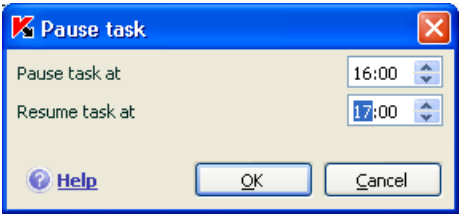


Figure 21. Pausing the component

To disable the component when working with programs that require significant resources, check **On applications startup** and edit the list of programs in the window that opens (see Figure 22) by clicking **List**.

To add an application to the list, use the **Add** button. A context menu will open, and by clicking **Browse** you can go to the standard file selection window and specify the executable file the application to add. Or, go to the list of applications currently running from the **Applications** item and select the one you want.

To delete an application, select it from a list and click **Delete**.

You can temporarily disable the pause on File Anti-Virus when using a specific application. To do so, uncheck the name of the application. You do not have to delete it from the list.

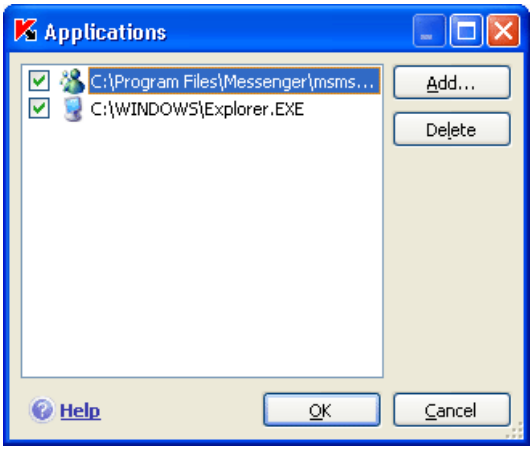


Figure 22. Creating an application list

7.2.4. Using Heuristic Analysis

Heuristic methods are utilized by several real-time protection components, such as File, Mail, Web Anti-Virus, as well as virus scan tasks.

Of course, scanning using the signature method with a database created previously containing a description of known threats and methods for treating them will give you a definite answer regarding whether a scanned object is malicious and what dangerous program class it is classified as. The heuristic method, unlike the signature method, is aimed at detecting typical behavior of operations rather than malicious code signatures that allow the program to make a conclusion on a file with a certain likelihood. The advantage of the heuristic method is that it does not require prepopulated databases to function. Because of this, new threats are detected before virus analysts have encountered them.

- In the event of a potential threat, the heuristic analyzer emulates object execution in the Kaspersky Internet Security secure virtual environment. If suspicious activity is discovered as the object executes, the object will be deemed malicious and will not be allowed to run on the host or a message will be displayed requesting further instructions from the user:
- Quarantine the new threat to be scanned and processed later using updated databases
- Delete the object
- Skip (if you are positive that the object cannot be malicious).

To use the heuristic method, select **Use heuristic analyzer**. You can additionally select the level of detail of the scan. To do so, move the slider to one of these positions: **shallow, medium, or detail**. Scan resolution provides a way to balance the thoroughness and, with it, the quality of the scan for new threats against operating system load and scan duration. The higher you set the heuristics level, the more system resources the scan will require, and the longer it will take.

Warning:

New threats detected using heuristic analysis are quickly analyzed by Kaspersky Lab, and methods for disinfecting them are added to the hourly database updates.

Therefore, if application databases are regularly updated and computer protection levels are optimized, there is no need to engage heuristic analysis continuously.

The **Heuristic Analyzer** tab (see Figure 23) may be used to disable / enable File Anti-Virus heuristic analysis for unknown threats. This requires that the following steps be performed:

1. Open the application settings window and select **File Anti-Virus** under **Protection**.
2. Click the **Customize** button in the **Security Level** area (cf. Figure 17).
3. Select the **Heuristic Analyzer** tab in the resulting dialog.

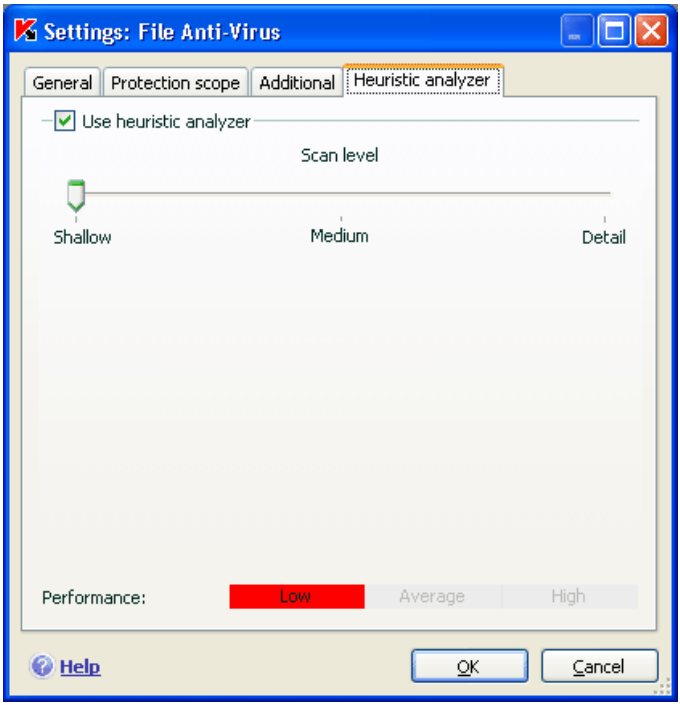


Figure 23. Using Heuristic Analysis

7.2.5. Restoring default File Anti-Virus settings

When configuring File Anti-Virus, you can always return to the default performance settings. Kaspersky Lab considers them to be optimal and has combined them in the **Recommended** security level.

To restore the default File Anti-Virus settings:

1. Open the application settings window and select **File Anti-Virus** under **Protection**.
2. Click the **Default** button in the **Security Level** area (see Figure 17).

If you modified the list of objects included in the protected zone when configuring File Anti-Virus settings, the program will ask you if you want to save that list for future use when you restore the initial settings. To save the list of objects, check **Protected scope** in the **Restore Settings** window that opens.

7.2.6. Selecting actions for objects

If File Anti-Virus discovers or suspects an infection in a file while scanning it for viruses, the program's next steps depend on the object's status and the action selected.

File Anti-Virus can label an object with one of the following statuses:

- Malicious program status (for example, *virus, Trojan*).
- *Potentially infected*, when the scan cannot determine whether the object is infected. This means that the program detected a sequence of code in the file from an unknown virus or modified code from a known virus.

By default, all infected files are subject to disinfection, and if they are potentially infected, they are sent to Quarantine.

To edit an action for an object:

open the application settings window and select **File Anti-Virus** under **Protection**. All potential actions are displayed in the appropriate sections (see Figure 24).

Figure 24. Possible File Anti-Virus actions with dangerous objects

If the action selected was	When it detects a dangerous object
Prompt for action	File Anti-Virus issues a warning message containing information about what malicious program has infected or potentially infected the file, and gives you a choice of actions. The choice can vary depending on the status of the object.
Block access	File Anti-Virus blocks access to the object. Information about this is recorded in the report (see 19.3 on pg. 240). Later you can attempt to disinfect this object.

If the action selected was	When it detects a dangerous object
Block access **Disinfect**	File Anti-Virus will block access to the object and will attempt to disinfect it. If it is successfully disinfected, it is restored for regular use. If disinfection fails, the file will be assigned the status of *potentially infected*, and it will be moved to Quarantine (see 19.1 on pg. 235). Information about this is recorded in the report. Later you can attempt to disinfect this object.
Block access **Disinfect** **Delete if disinfection fails**	File Anti-Virus will block access to the object and will attempt to disinfect it. If it is successfully disinfected, it is restored for regular use. If the object cannot be disinfected, it is deleted. A copy of the object will be stored in Backup (see 19.2 on pg. 238).
Block access **Delete**	File Anti-Virus will block access to the object and will delete it.

When disinfecting or deleting an object, Kaspersky Internet Security creates a backup copy before it attempts to treat the object or delete it, in case the object needs to be restored or an opportunity arises to treat it.

7.3. Postponed disinfection

If you select **Block access** as the action for malicious programs, the objects will not be treated and access to them will be blocked.

If the actions selected were

Block access
Disinfect

all untreated objects will also be blocked.

In order to regain access to blocked objects, they must be disinfected. To do so:

1. Select **File Anti-Virus** under **Protection** in the application main window and click on **Open Report**.
2. Select the objects that interest you on the **Detected** tab and click the **Actions** → **Neutralize all** button.

Successfully disinfected files will be returned to the user. Any that cannot be treated, you can *delete* or *skip* it. In the latter case, access to the file will be restored. However, this significantly increases the risk of infection on your computer. It is strongly recommended not to skip malicious objects.

CHAPTER 8. MAIL ANTI-VIRUS

Mail Anti-Virus is Kaspersky Internet Security's component to prevent incoming and outgoing email from transferring dangerous objects. It starts running when the operating system boots up, stays active in your system memory, and scans all email on protocols POP3, SMTP, IMAP, MAPI[1] and NNTP, as well as secure connections (SSL) using POP3 and IMAP.

The component's activity is indicated by the Kaspersky Internet Security system tray icon, which looks like this whenever an email is being scanned.

The default setup for Mail Anti-Virus is as follows:

1. Mail Anti-Virus intercepts each email received or sent by the user.
2. The email is broken down into its parts: email headers, its body, and attachments.
3. The body and attachments of the email (including OLE attachments) are scanned for dangerous objects. Malicious objects are detected using the *databases* included in the program, and with the heuristic algorithm. The databases contain descriptions of all the malicious programs known to date and methods for neutralizing them. The heuristic algorithm can detect new viruses that have not yet been entered in the databases.
4. After the virus scan, you have the following available courses of action:
    - If the body or attachments of the email contain malicious code, Mail Anti-Virus will block the email, place a copy of the infected object in *Backup*, and try to disinfect the object. If the email is successfully disinfected, it becomes available to the user again. If not, the infected object in the email is deleted. After the virus scan, special text is inserted in the subject line of the email stating that the email has been processed by Kaspersky Internet Security.
    - If code is detected in the body or an attachment that appears to be, but is not definitely malicious, the suspicious part of the email is sent to *Quarantine*.
    - If no malicious code is discovered in the email, it is immediately made available again to the user.

[1] Emails sent with MAPI are scanned using a special plug-in for Microsoft Office Outlook and The Bat!

A special plug-in (see 8.2.2 on pg. 101) is provided for Microsoft Office Outlook that can configure email scans more exactly.

If you use The Bat!, Kaspersky Internet Security can be used in conjunction with other anti-virus applications. The rules for processing email traffic (see 8.2.3 on pg. 102) are configured directly in The Bat! and supersede the Kaspersky Internet Security email protection settings.

Caution!

This version of Kaspersky Internet Security does not contain Mail Anti-Virus extensions for 64-bit versions of email clients.

When working with other email programs, including Microsoft Outlook Express (Windows Mail), Mozilla Thunderbird, Eudora, Incredimail, Mail Anti-Virus scans email on SMTP, POP3, IMAP, MAPI, and NNTP protocols.

Note that emails transmitted on IMAP are not scanned in Thunderbird if you use filters that move them out of your **Inbox**.

8.1. Selecting an email security level

Kaspersky Internet Security protects your email at one of these levels (see fig. 30):

Maximum Protection – the level with the most comprehensive monitoring of incoming and outgoing emails. The program scans email attachments, including archives, in detail, regardless of how long the scan takes.

Recommended – Kaspersky Lab experts recommend this level. It scans the same objects as at **Maximum Protection**, with the exception of attachments or emails that will take more than three minutes to scan.

High Speed – the security level with settings that let you comfortably use resource-intensive applications, since the scope of email scanning is limited. Thus, only your incoming email is scanned on this level, and in doing so archives and objects (emails) attached are not scanned if they take more than three minutes to scan. This level is recommended if you have additional email protection software installed on your computer.

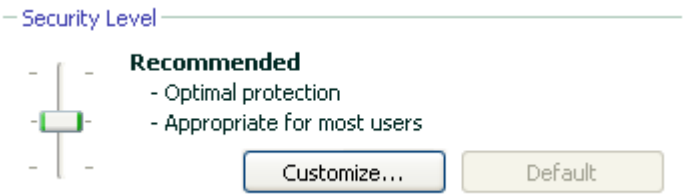


Figure 25. Selecting an email security level

By default, the email security level is set to **Recommended**.

You can raise or lower the email security level by selecting the level you want, or editing the settings for the current level.

To change the security level:

Adjust the sliders. By altering the security level, you define the ratio of scan speed to the total number of objects scanned: the fewer email objects are scanned for dangerous objects, the higher the scan speed.

If none of the preinstalled levels fully meet your requirements, their settings may be customized. It is recommended that you select a level closest to your requirements as basis and edit its parameters. This will change the name of the security level to **Custom**. Let us look at an example when preconfigured security level settings may need to be modified.

Example:

Your computer is outside the local area network and uses a dial-up Internet connection. You use Microsoft Outlook Express as an email client for receiving and sending email, and you use a free email service. For a number of reasons, your email contains archived attachments. How do you maximally protect your computer from infection through email?

Tip for selecting a level:

By analyzing your situation, one can conclude that you are at a high risk of infection through email in the scenario outlined, because there is no centralized email protection and through using a dial-up connection.

You are advised to use **Maximum Protection** as your starting point, with the following changes: reduce the scan time for attachments to, for example, 1-2 minutes. The majority of archived attachments will be scanned for viruses and the processing speed will not be seriously slowed.

To modify the current security level:

1. Open the application settings window and select **Mail Anti-Virus** under **Protection**.
2. Click on **Customize** under **Security Level** (see Figure 25).
3. Edit mail protection parameters in the resulting window and click **OK**.

8.2. Configuring Mail Anti-Virus

A series of settings govern how your email is scanned. The settings can be broken down into the following groups:

- Settings that define the protected group (see 8.2.1 on pg. 99) of emails
- Settings defining the use of heuristic methods(cf. Section 8.2.4, p. 121)
- Email scan settings for Microsoft Office Outlook (see 8.2.2 on pg. 101) and The Bat! (see 8.2.3 on pg. 102)
- settings that define actions for dangerous email objects (see 8.2.5 on pg. 105)

The following sections examine these settings in detail.

8.2.1. Selecting a protected email group

Mail Anti-Virus allows you to select exactly what group of emails to scan for dangerous objects.

By default, the component protects email at the **Recommended** security level, which means scanning both incoming and outgoing email. When you first begin working with the program, you are advised to scan outgoing email, since it is possible that there are worms on your computer that use email as a channel for distributing themselves. This will help avoid the possibility of unmonitored mass mailings of infected emails from your computer.

If you are certain that the emails that you are sending do not contain dangerous objects, you can disable the outgoing email scan. To do so:

1. Open the application settings window and select **Mail Anti-Virus** under **Protection**.
2. Click the **Customize** button in the **Security Level** area (cf. Figure 25).
3. In the window that opens (see Figure 26), select **Only incoming email** in the **Scope** section.

In addition to selecting an email group, you can specify whether archived attachments should be scanned, and also set the maximum amount of time for scanning a single email object. These settings are configured in the **Restrictions** section.

If your computer is not protected by any local network software, and accesses the Internet without using a proxy server or firewall, you are advised **not to disable** the archived attachment scan and not to set a time limit on scanning.

If you are working in a protected environment, you can change the time restrictions on scanning to increase the email scan speed.

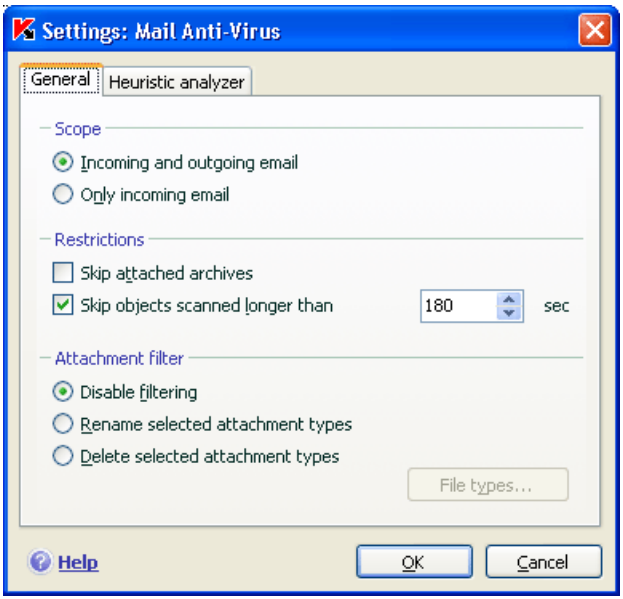


Figure 26. Mail Anti-Virus settings

You can configure the filtration conditions for objects connected to an email in the **Attachment Filter** section:

- **Disable filtering** – do not use additional filtration for attachments.
- **Rename selected attachment types** – filter out a certain attachment format and replace the last character of the file name with an underscore. You can select the file type by clicking the **File types** button.
- **Delete selected attachment types** – filter out and delete a certain attachment format. You can select the file type by clicking the **File types** button.

You can find more information about filtered attachment types in section A.1 on pg. 301.

By using the filter, you increase your computer's security, since malicious programs spread through email most frequently as attachments. By renaming or deleting certain attachment types, you protect your computer against automatically opening attachments when a message is received.

8.2.2. Configuring email processing in Microsoft Office Outlook

If you use Microsoft Office Outlook as your email client, you can set up custom configurations for virus scans.

A special plug-in is installed in Microsoft Office Outlook when you install Kaspersky Internet Security. It can quickly access Mail Anti-Virus settings, and also set the maximum time that individual emails will be scanned for dangerous objects.

Warning!

This version of Kaspersky Internet Security does not provide Mail Anti-Virus plug-ins for 64-bit Microsoft Office Outlook.

The plug-in comes in the form of a special **Mail Anti-Virus** tab located under **Service → Options** (see Figure 27).

Select an email scan mode:

- **Scan upon receiving** – analyzes each email when it enters your Inbox.
- **Scan when read** – scans each email when you open it to read it.
- **Scan upon sending** – scans each email for viruses when you send it.

Warning!

If you use Microsoft Office Outlook to connect to your email service on IMAP, you are advised not to use **Scan upon receiving** mode. Enabling this mode will lead to emails being copied to the local computer when delivered to the server, and consequently the main advantage of IMAP is lost – creating less traffic and dealing with unwanted email on the server without copying them to the user's computer.

The action that will be taken on dangerous email objects is set in the Mail Anti-Virus settings, which can be configured by following the click here link in the **Status** section.

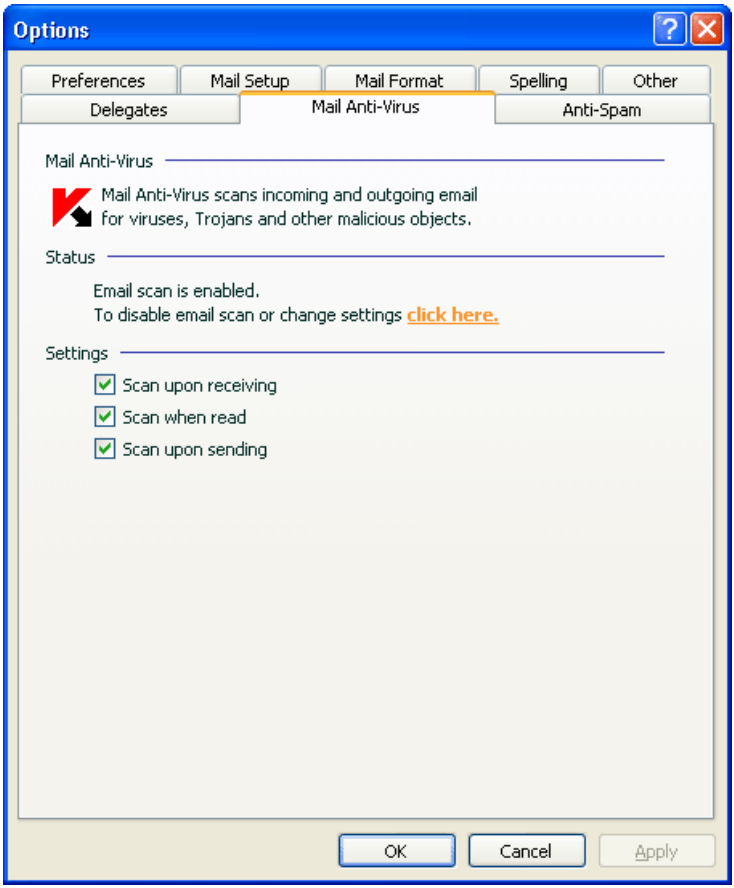


Figure 27. Configuring Mail Anti-Virus settings in Microsoft Office Outlook

8.2.3. Configuring email scans in The Bat!

Actions taken on infected email objects in The Bat! are defined with the program's own tools.

Warning!

The Mail Anti-Virus settings that determine whether incoming and outgoing email is scanned, as well as actions on dangerous email objects and exclusions, are ignored. The only settings that The Bat! takes into account relate to scanning archived attachments and time limits on scanning emails (see 8.2.1 on pg. 99).

This version of Kaspersky Internet Security does not provide Mail Anti-Virus plug-ins for 64-bit The Bat!

To set up email protection rules in The Bat!:

1. Select **Preferences** from the email client's **Options** menu.
2. Select **Protection** from the settings tree.

The protection settings displayed (see Figure 28) extend to all anti-virus modules installed on the computer that support The Bat!

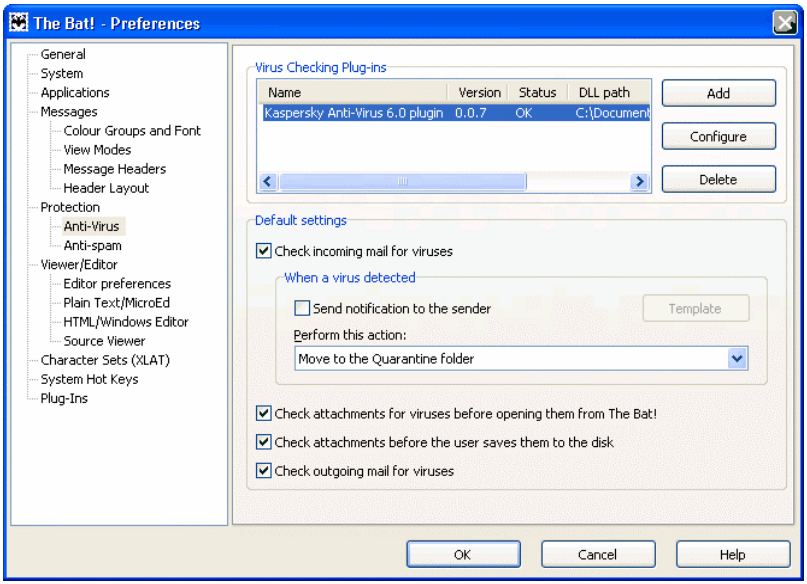


Figure 28. Configuring email scans in The Bat!

You must decide:

- What group of emails will be scanned for viruses (incoming, outgoing)
- At what point in time email objects will be scanned for viruses (when opening an email or before saving one to disk)

- The actions taken by the email client when dangerous objects are detected in emails. For example, you could select:

  Try to cure infected parts – tries to treat the infected email object, and if the object cannot be disinfected, it stays in the email. Kaspersky Internet Security will always inform you if an email is infected. But even if you select **Delete** in the Mail Anti-Virus notice window, the object will remain in the email, since the action selected in The Bat! takes precedent over the actions of Mail Anti-Virus.

  Remove infected parts – delete the dangerous object in the email, regardless of whether it is infected or suspected of being infected.

  By default, The Bat! places all infected email objects in the Quarantine folder without treating them.

Warning!

The Bat! does not mark emails containing dangerous objects with special headers.

8.2.4. Using Heuristic Analysis

Heuristic methods are utilized by several real-time protection components and virus scan tasks (cf. Section 7.2.4 at p. 90 for more detail).

Heuristic methods of detecting new threats may be enabled / disabled for the Mail Anti-Virus component using the **Heuristic Analyzer** tab. This requires that the following steps be performed:

1. Open the application settings window and select **Mail Anti-Virus** under **Protection**.
2. Click the **Customize** button in the **Security Level** area (cf. Figure 25).
3. Select **Heuristic Analyzer** tab in the resulting dialog (see Figure 29).

To use heuristic methods, check **Use Heuristic Analyzer**. Additionally, scan resolution may be set by moving the slider to one of the following settings: **shallow, medium, or detail**.

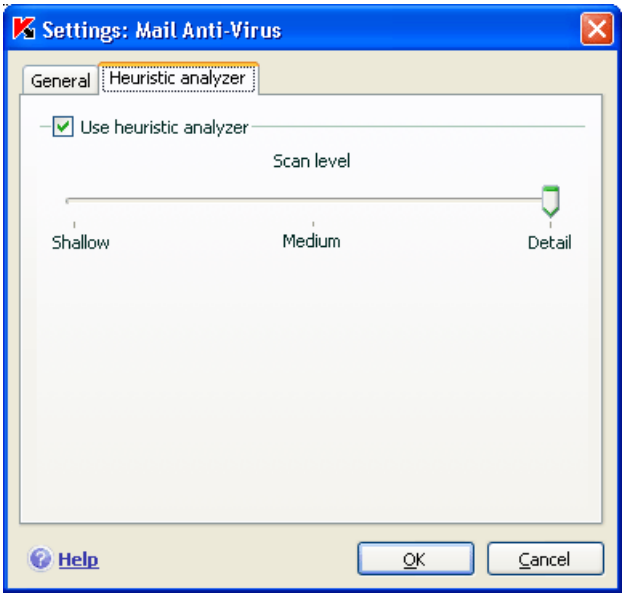


Figure 29. Using Heuristic Analysis

8.2.5. Restoring default Mail Anti-Virus settings

When configuring Mail Anti-Virus, you can always return to the default performance settings, which Kaspersky Lab considers to be optimal and has combined in the **Recommended** security level.

To restore the default Mail Anti-Virus settings:

1. Open the application settings window and select **Mail Anti-Virus** under **Protection**.
2. Click the **Default** button under **Security Level** (cf. Figure 25).

8.2.6. Selecting actions for dangerous email objects

If a scan shows that an email or any of its parts (body, attachment) is infected or suspicious, the steps taken by Mail Anti-Virus depend on the object status and the action selected.

One of the following statuses can be assigned to the email object after the scan:

- Malicious program status (for example, *virus, Trojan* – for more details, see 1.1 on pg. 11).
- *Potentially infected*, when the scan cannot determine whether the object is infected. This means that the program detected a sequence of code in the file from an unknown virus or modified code from a known virus.

By default, when Mail Anti-Virus detects a dangerous or potentially infected object, it displays a warning on the screen and prompts the user to select an action for the object.

To edit an action for an object:

open the application settings window and select **Mail Anti-Virus** under **Protection**. All possible actions for dangerous objects are listed in the **Action** box (see Figure 30).

Figure 30. Selecting actions for dangerous email objects

Let's look at the possible options for processing dangerous email objects in more detail.

If the action selected was	When a dangerous object is detected
Prompt for action	Mail Anti-Virus will issue a warning message containing information about what malicious program has infected (potentially infected) the file and gives you the choice of one of the following actions.
Block access	Mail Anti-Virus will block access to the object. Information about this is recorded in the report (see 19.3 on pg. 240). Later you can attempt to disinfect this object.

Block access **Disinfect**	E-Mail Anti-Virus will block access to the object and will attempt to disinfect it. If it is successfully disinfected, it is restored for regular use. If the object could not be treated, it is moved to Quarantine (see 19.1 on pg. 232). Information about this is recorded in the report. Later you can attempt to disinfect this object.
Block access **Disinfect** **Delete if disinfection fails**[2]	E-Mail Anti-Virus will block access to the object and will attempt to disinfect it. If it is successfully disinfected, it is restored for regular use. If the object cannot be disinfected, it is deleted. A copy of the object will be stored in Backup. Objects with the status of potentially infected will be moved to Quarantine.
Block access **Delete**	When E-Mail Anti-Virus detects an infected or potentially infected object, it deletes it without informing the user.

When disinfecting or deleting an object, Kaspersky Internet Security creates a backup copy (see 19.2 on pg. 238) before it attempts to treat the object or delete it, in case the object needs to be restored or an opportunity arises to treat it.

[2] If you are using The Bat! as your mail client, dangerous email objects will either be disinfected or deleted when Mail Anti-Virus takes this action (depending on the action selected in The Bat!).

CHAPTER 9. WEB ANTI-VIRUS

Whenever you use the Internet, information stored on your computer is open to the risk of infection by dangerous programs, which can penetrate your computer when you read an article on the Internet.

Web Anti-Virus is Kaspersky Internet Security's component for guarding your computer during Internet use. It protects information that enters your computer via the HTTP protocol, and also prevents dangerous scripts from being loaded on your computer.

Warning!

Web Anti-Virus only monitors HTTP traffic that passes through the ports listed on the monitored port list (see 19.5 on pg. 262). The ports most commonly used for transmitting email and HTTP traffic are listed in the program package. If you use ports that are not on this list, add them to it to protect traffic passing through them.

If you are working on an unprotected network, you are advised to use Web Anti-Virus to protect yourself while using the Internet. Even if your computer is running on a network protected by a firewall or HTTP traffic filters, Web Anti-Virus provides additional protection while you browse the Web.

The component's activity is indicated by the Kaspersky Internet Security system tray icon, which looks like this whenever scripts are being scanned.

Let's look at the component's operation in more detail.

Web Anti-Virus consists of two modules, that handle:

- *Traffic scan* – scans objects that enter the user's computer via HTTP.
- *Script scan* – scans all scripts processed in Microsoft Internet Explorer, as well as any WSH scripts (JavaScript, Visual Basic Script, etc.) that are loaded while the user is on the computer.

  A special plug-in for Microsoft Internet Explorer is installed as part of Kaspersky Internet Security installation. The button in the browser's Standard Buttons toolbar indicates that it is installed. Clicking on the icon opens an information panel with Web Anti-Virus statistics on the number of scripts scanned and blocked.

Web Anti-Virus guards HTTP traffic as follows:

1. Each web page or file that can be accessed by the user or by a certain application via HTTP is intercepted and analyzed by Web Anti-Virus for

malicious code. Malicious objects are detected using both the databases included in Kaspersky Internet Security, and the heuristic algorithm. The databases contain descriptions of all malicious programs known to date, and methods for neutralizing them. The heuristic algorithm can detect new viruses that have not yet been entered in the databases.

2. After the analysis, you have the following available courses of action:

   - If a web page or an object accessed by a user contains malicious code, access to such an object is blocked. A notification is displayed that the object or page being requested is infected.
   - If a file or a web page contains no malicious code, it becomes immediately available to the user.

Scripts are scanned according to the following algorithm:

1. Web Anti-Virus intercepts each script run on a web page and scans them for malicious code.
2. If a script contains malicious code, Web Anti-Virus blocks it and informs the user with a special popup notice.
3. If no malicious code is discovered in the script, it is run.

9.1. Selecting Web Security Level

Kaspersky Internet Security protects you while you use the Internet at one of the following levels (see Figure 31):

Maximum Protection – the level with the most comprehensive monitoring of scripts and objects incoming via HTTP. The program performs a thorough scan of all objects using the full set of application databases. This security level is recommended for aggressive environments, when no other HTTP protection tools are being used.

Recommended – settings of this level are recommended by Kaspersky Lab experts. This level scans the same objects as at **Maximum Protection**, but limits the caching time for file fragments, thus accelerating the scan and returning objects to the user sooner.

High Speed – the security level with settings that let you comfortably use resource-intensive applications, since the scope of objects scanned is reduced by using a limited set of application databases. It is recommended to select this protection level if you have additional web protection software installed on your computer.

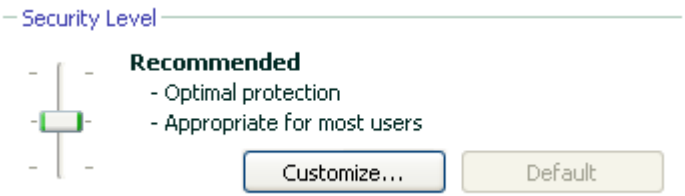


Figure 31. Selecting a web security level

By default, the protection level is set to **Recommended**.

You can raise or lower the security level by selecting the level you want or editing the settings for the current level.

To edit the security level:

Adjust the sliders. By altering the security level, you define the ratio of scan speed to the total number of objects scanned: the fewer objects are scanned for malicious code, the higher the scan speed.

If none of the preinstalled levels fully meet your requirements, their settings may be customized. It is recommended that you select a level closest to your requirements as basis and edit its parameters. This will change the name of the security level to **Custom**. Let us look at an example when preconfigured security level settings may need to be modified.

Example:

Your computer connects to the Internet via a modem. It is not on a corporate LAN, and you have no anti-virus protection for incoming HTTP traffic.

Due to the nature of your work, you regularly download large files from the Internet. Scanning files like these takes up, as a rule, a fair amount of time.

How do you optimally protect your computer from infection through HTTP traffic or a script?

Tip for selecting a level:

Judging from this basic information, we can conclude that your computer is running in a sensitive environment, and you are at high risk for infection through HTTP traffic, because there is no centralized web protection and due to the use of dial-up to connect to the Internet.

It is recommended that you use **Maximum Protection** as your starting point, with the following changes: you are advised to limit the caching time for file fragments during the scan.

To modify a preinstalled security level:

1. Open the application settings window and select **Web Anti-Virus** under **Protection**.
2. Click on **Customize** under **Security Level** (cf. Figure 31).
3. Edit browsing protection parameters in the resulting window and click **OK**.

9.2. Configuring Web Anti-Virus

Web Anti-Virus scans all objects that are loaded on your computer via the HTTP protocol, and monitors any WSH scripts (JavaScript or Visual Basic Scripts, etc.) that are run.

You can configure Web Anti-Virus settings to increase component operation speed, specifically:

- Set the scanning algorithm by selecting a complete or limited set of application databases (cf. Section 9.2.1, p. 111)
- Create a list of trusted web addresses (cf. Section 9.2.2, p. 113)
- Enable / disable heuristic analysis (cf. Section 9.2.3, p. 114)

It is also possible to select the actions that Web Anti-Virus will take in response to discovering dangerous HTTP objects.

The following sections examine these settings in detail.

9.2.1. Setting a scan method

You can scan data from the Internet using one of the following algorithms:

- *Streaming scan* – this method for detecting malicious code in network traffic scans data on the fly: as a file is downloading from the Internet, Web Anti-Virus scans the file's portions as they are downloaded, which delivers the scanned object to the user more quickly. At the same time, a limited set of application databases is used to perform streaming scans (only the most active threats), which significant lowers the security level for using the Internet.
- *Buffering scan* – this method scans objects only after they have been fully downloaded to the buffer. After the scan is complete, the program either passes the object to the user or blocks it.

When using this scan type, the full set of application databases is used, which improves the level of malicious code detection. However, using this algorithm increases object processing time, and hence makes web browsing slower: it can also cause problems when copying and processing large objects because the connection with the HTTP client can time out.

One way to solve this problem is to limit the caching time for object fragments downloaded from the Internet. When the time limit expires, the user will receive the downloaded part of the file without it being scanned, but once the object is fully copied, it will be scanned in its entirety. This can deliver the object to the user sooner, and can solve the problem of interrupting the connection without reducing security while using the Internet.

To select the scanning algorithm that Web Anti-Virus will use:

1. Open the application settings window and select **Web Anti-Virus** under **Protection**.
2. Click on the **Customize** button in the Web Anti-Virus configuration window (cf. Figure 31).
3. In the window that opens (see Figure 32), select the option you want in the **Scan method** section.

By default, Web Anti-Virus performs a buffered scan on Internet data, and uses the complete set of application databases. The default caching time for file fragments is one second.

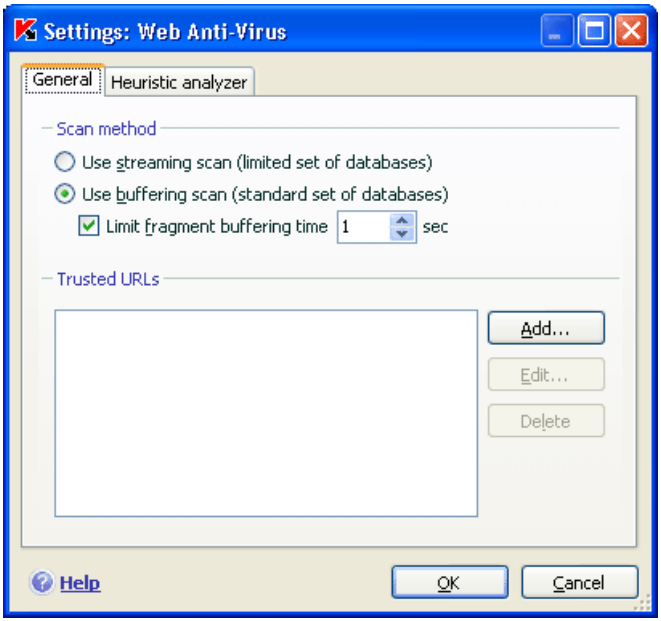


Figure 32. Configuring Web Anti-Virus

Warning!

If you encounter problems accessing resources like Internet radio, streaming video, or Internet conferencing, use streaming scan.

9.2.2. Creating a trusted address list

You have the option of creating a list of trusted addresses whose contents you fully trust. Web Anti-Virus will not analyze data from those addresses for dangerous objects. This option can be used in cases where Web Anti-Virus repeatedly blocks the download of a particular file.

To create a list of trusted addresses:

1. Open the application settings window and select **Web Anti-Virus** under **Protection**.
2. Click on the **Customize** button under **Security Level** (cf. Figure 31).
3. In the window that opens (see Figure 32), create a list of trusted servers in the **Trusted URLs** section. To do so, use the buttons to the right of the list.

When entering a trusted address, you can create masks with the following wildcards:

***** – any combination of characters.

Example: If you create the mask ***abc***, no URL contain **abc** will be scanned. For example: www.virus.com/download_virus/page_0-9abcdef.html

? – any single character.

Example: If you create mask **Patch_123?.com**, URLs containing that series of characters plus any single character following the 3 will not be scanned. For example: **Patch_1234.com** However, **patch_12345.com** will be scanned.

If an * or ? is part of an actual URL added to the list, when you enter them, you must use a backslash to override the * or ? following it.

Example: You want to add this following URL to the trusted address list: www.virus.com/download_virus/virus.dll?virus_name=

For Kaspersky Internet Security not to process **?** as a wildcard, put a backslash (\ ) in front of it. Then the URL that you are adding to the exclusion list will be as follows: www.virus.com/download_virus/virus.dll\?virus_name=

9.2.3. Using Heuristic Analysis

Heuristic methods are utilized by several real-time protection components and virus scan tasks (cf. Section 7.2.4 at p. 90 for more detail).

Heuristic methods of detecting new threats may be enabled / disabled for the Web Anti-Virus component using the **Heuristic Analyzer** tab. This requires that the following steps be performed:

1. Open the application settings window and select **Web Anti-Virus** under **Protection**.
2. Click the **Customize** button in the **Security Level** area.
3. Select **Heuristic Analyzer** tab in the resulting dialog (see Figure 33).

To use heuristic methods, check **Use Heuristic Analyzer**. In addition, scan resolution may be set by moving the slider to one of the following settings: **shallow, medium,** or **detail**.

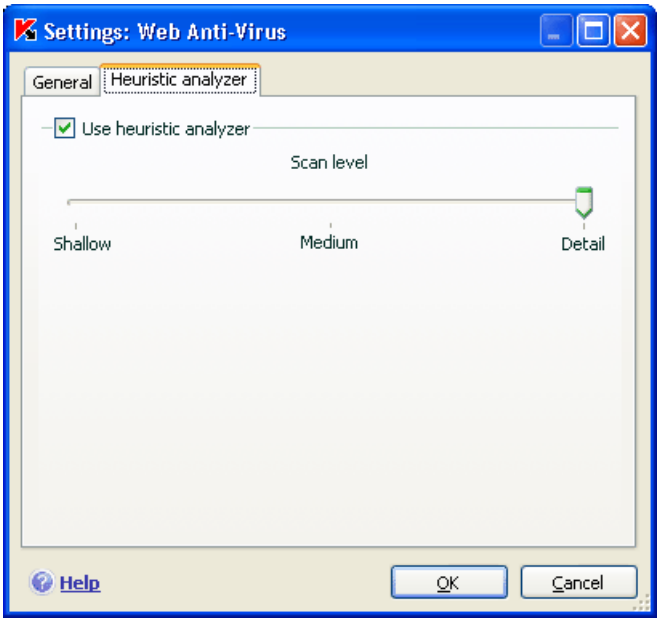


Figure 33. Using Heuristic Analysis

9.2.4. Restoring default Web Anti-Virus settings

When configuring Web Anti-Virus, you can always return to the default performance settings, which Kaspersky Lab considers to be optimal and has combined as the **Recommended** security level.

To restore the default Web Anti-Virus settings:

1. Open the application settings window and select **Web Anti-Virus** under **Protection**.
2. Click the **Default** button under **Security Level** (cf. Figure 31).

9.2.5. Selecting responses to dangerous objects

If analyzing an HTTP object shows that it contains malicious code, the Web Anti-Virus response depends on the actions you select.

To configure Web Anti-Virus reactions to detecting a dangerous object:

open the application settings window and select **Web Anti-Virus** under **Protection**. The possible responses for dangerous objects are listed in the **Action** section (see Figure 34).

By default, when a dangerous HTTP object is detected, Web Anti-Virus displays a warning on the screen and offers a choice of several actions for the object.

Figure 34. Selecting actions for dangerous scripts

The possible options for processing dangerous HTTP objects are as follows.

If the action selected was	If a dangerous object is detected in the HTTP traffic
Prompt for action	Web Anti-Virus will issue a warning message containing information about what malicious code has potentially infected the object, and will give you a choice of responses.
Block	Web Anti-Virus will block access to the object and will display a message on screen about blocking it. Similar information will be recorded in the report (see 19.3 on pg. 240).
Allow	Web Anti-Virus will grant access to the object. This information is logged in the report.

Web Anti-Virus always blocks dangerous scripts, and issues popup messages that inform the user of the action taken. You cannot change the response to a dangerous script, other than by disabling the script scanning module.

CHAPTER 10. PROACTIVE DEFENSE

Warning!

There is no **Application Integrity Control** component in this version of the application for computers running Microsoft Windows XP Professional x64 Edition, Microsoft Windows Vista or Microsoft Windows Vista x64.

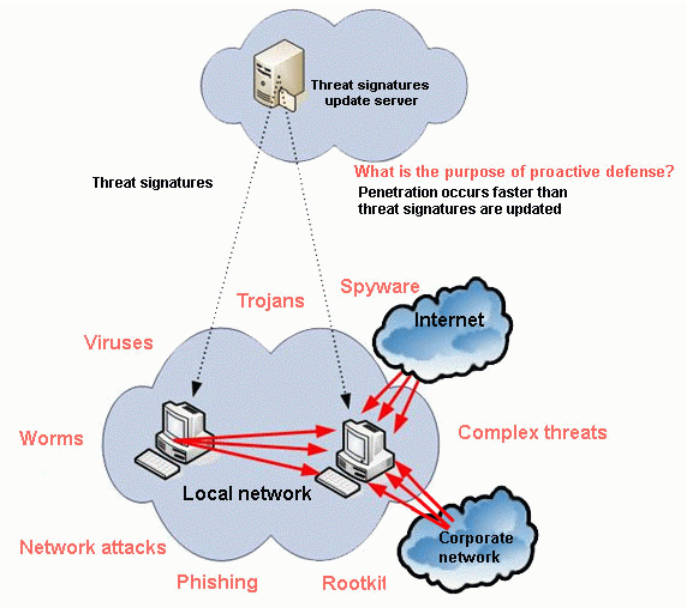
Kaspersky Internet Security protects you both from known threats and from new ones about which there is no information in the application databases. This is ensured by a specially developed component – *Proactive Defense.*

The need for Proactive Defense has grown as malicious programs have begun to spread faster than anti-virus updates can be released to neutralize them. The reactive technique, on which anti-virus protection is based, requires that a new threat infect at least one computer, and requires enough time to analyze the malicious code, add it to the application database and update the database on user computers. By that time, the new threat might have inflicted massive damages.

The preventative technologies provided by Kaspersky Internet Security Proactive Defense do not require as much time as the reactive technique, and neutralize new threats before they harm your computer. How is this done? In contrast with reactive technologies, which analyze code using an application database, preventive technologies recognize a new threat on your computer by a sequence of actions executed by a certain program. The application installation includes a set of criteria that can help determine how dangerous the activity of one program or another is. If the activity analysis shows that a certain program's actions are suspicious, Kaspersky Internet Security will take the action assigned by the rule for activity of the specific type.

Dangerous activity is determined by the total set of program actions. For example, when actions are detected such as a program copying itself to network resources, the startup folder, or the system registry, and then sending copies of itself, it is highly likely that this program is a worm. Dangerous behavior also includes:

- Changes to the file system
- Modules being embedded in other processes
- Masking processes in the system
- Modification of certain Microsoft Window system registry keys



Proactive Defense tracks and blocks all dangerous operations by using the set of rules together with a list of excluded applications.

In operation, Proactive Defense uses a set of rules included with the program, as well as rules created by the user while using the program. A *rule* is a set of criteria that determine a set of suspicious behaviors and Kaspersky Internet Security's reaction to them.

Individual rules are provided for application activity and monitoring changes to the system registry and programs run on the computer. You can edit the rules at your own discretion by adding, deleting, or editing them. Rules can block actions or grant permissions.

Let’s examine the Proactive Defense algorithms:

1. Immediately after the computer is started, Proactive Defense analyzes the following factors, using the set of rules and exclusions:

    - *Actions of each application running on the computer*. Proactive Defense records a history of actions taken in order and compares them with sequences characteristic of dangerous activity (a database of dangerous activity types comes with Kaspersky Internet Security and is updated with the application databases).

- *Integrity of the program modules* of the programs installed on your computer, which helps avoid application modules being substituted for malicious code embedded in them.
- *Each attempt to edit the system registry* by deleting or adding system registry keys, entering strange values for keys in an inadmissible format that prevents them from being viewed or edited, etc.).

2. The analysis is conducted using allow and block rules from Proactive Defense.
3. After the analysis, the following courses of action are available:
   - If the activity satisfies the conditions of the Proactive Defense allow rule or does not match any of the block rules, it is not blocked.
   - If the activity is ruled as dangerous on the basis of the relevant criteria, the next steps taken by the component match the instructions specified in the rule: usually the activity is blocked. A message will be displayed on the screen specifying the dangerous program, its activity type, and a history of actions taken. You must accept the decision, block, or allow this activity on your own. You can create a rule for the activity and cancel the actions taken in the system.

The categories of settings (see Figure 35) for the Proactive Defense component are as follows:

- *Whether application activity is monitored on your computer*

  This Proactive Defense feature is enabled by checking the box ☑ **Enable Application Activity Analyzer**. By default the analyzer is enabled providing a strict analysis of actions performed by any program running on the host. You can configure the order in which applications are processed for that activity. You can also create Proactive Defense exclusions, which will stop the monitoring of selected applications.

- *Whether Application Integrity Control is enabled*

  This feature is responsible for the integrity of application modules (dynamic link libraries, or DLLs) installed on your computer, and is enabled by checking the box ☑ **Enable Application Integrity Control** box. Integrity is tracked by monitoring the checksum of the application modules, and of the application itself. You can create rules (cf. Section 10.2, p. 124) for monitoring the integrity of modules from any application. To do so, add that application to the list of monitored applications.

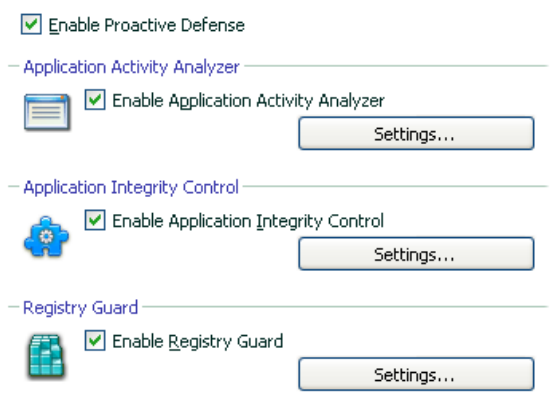


Figure 35. Proactive Defense settings

This Proactive Defense component is not available under Microsoft Windows XP Professional x64 Edition, Microsoft Windows Vista or Microsoft Windows Vista x64.

- *Whether system registry changes are monitored*

  By default, ☑ **Enable Registry Guard** is checked, which means Kaspersky Internet Security analyzes all attempts to make changes to the Microsoft Windows system registry keys.

  You can create your own rules (see 10.3.2 on pg. 131) for monitoring the registry, depending on the registry key.

You can configure exclusions (see 6.9.1 on pg. 72) for Proactive Defense modules and create a trusted application list (see 6.9.2 on pg. 77).

The following sections examine these aspects in more detail.

10.1. Activity Monitoring Rules

Note that configuring application control under Microsoft Windows XP Professional x64 Edition, Microsoft Windows Vista or Microsoft Windows Vista x64 differs from the configuration process on other operating systems.

Information about configuring activity control for these operating systems is provided at the end of this section.

Kaspersky Internet Security monitors application activity on your computer. The application includes a set of event descriptions that can be tracked as dangerous. A monitoring rule is created for each such event. If the activity of any application is classified as a dangerous event, Proactive Defense will strictly adhere to the instructions stated in the rule for that event.

Select the **Enable Application Activity Analyzer** checkbox if you want to monitor the activity of applications.

Let's take a look a several types of events that occur in the system that the application will track as suspicious:

- *Dangerous behavior*. Kaspersky Internet Security analyzes the activity of applications installed on your computer, and based on the list of rules created by Kaspersky Lab, detects dangerous or suspicious actions by the programs. Such actions include, for example, masked program installation, or programs copying themselves.
- *Launching Internet browser with parameters*. By analyzing this type of activity, you can detect attempts to open a browser with settings. This activity is characteristic of opening a web browser from an application with certain command prompt settings: for example, when you click a link to a certain URL in an advertisement e-mail.
- *Intrusion into process (invaders)* – adding executable code or creating an additional stream to the process of a certain program. This activity is widely used by Trojans.
- *Rootkit detection*. A rootkit is a set of programs used to mask malicious programs and their processes in the system. Kaspersky Internet Security analyzes the operating system for masked processes.
- *Window hooks*. This activity is used in attempts to read passwords and other confidential information displayed in operating system dialog boxes. Kaspersky Internet Security traces this activity if attempts are made to intercept data transferred between the operating system and the dialog box.
- *Suspicious values in registry*. The system registry is a database for storing system and user settings that control the operation of Microsoft Windows, as well as any utilities established on the computer. Malicious programs, attempting to mask their presence in the system, copy incorrect values in registry keys. Kaspersky Internet Security analyzes system registry entries for suspicious values.
- *Suspicious system activity*. The program analyzes actions executed by the Microsoft Windows operating system and detects suspicious activity. An example of suspicious activity would be an integrity breach, which involves modifying one or several modules in a monitored application since the time it was last run.

- *Keylogger detection*. This activity is used in attempts by malicious programs to read passwords and other confidential information which you have entered using your keyboard.
- *Microsoft Windows Task Manager protection*. Kaspersky Internet Security protects Task Manager from malicious modules injecting themselves into it when aimed at blocking Task Manager operation.

The list of dangerous activities can be extended automatically by the Kaspersky Internet Security update process, but it cannot be edited by the user. You can:

- Turn off monitoring for an activity by deselecting the ☑ next to its name.
- Edit the rule that Proactive Defense uses when it detects a dangerous activity.
- Create an exclusion list (see 6.9 on pg. 71) by listing applications that you do not consider dangerous.

To configure activity monitoring,

1. Open the application settings window and select **Proactive Defense** under **Protection**.
2. Click the **Settings** button in the **Application Activity Analyzer** section (cf. Figure 40).

The types of activity that Proactive Defense monitors are listed in the **Settings: Application Activity Analyzer** window (see Figure 36).

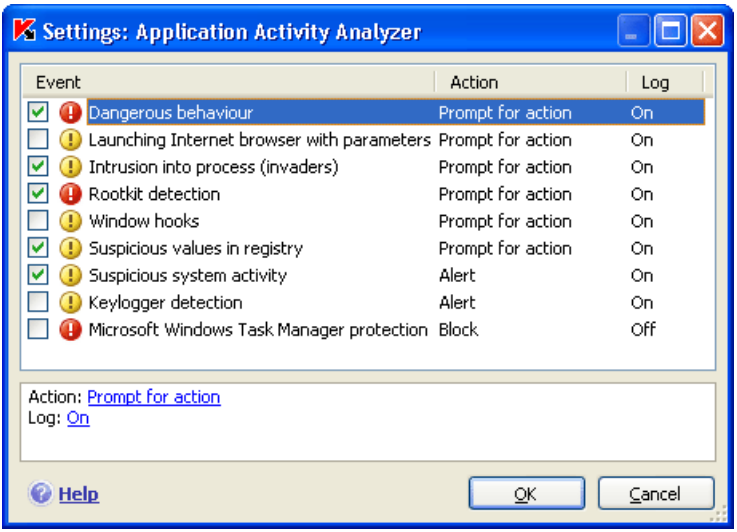


Figure 36. Configuring application activity control

To edit a dangerous activity monitoring rule, select it from the list and assign the rule settings in the lower part of the tab:

- Assign the Proactive Defense response to the dangerous activity.

  You can assign any of the following actions as a response: allow, prompt for action, and terminate process. Left-click on the link with the action until it reaches the value that you need. In addition to stopping the process, you can place the application that initiated the dangerous activity in Quarantine. To do so, use the On / Off link across from the appropriate setting. You can assign a time value for how frequently the scan will run for detecting hidden processes in the system.

- Choose if you want to generate a report on the operation carried out. To do so, click on the **Log** link until it shows On or Off as required.

To turn off monitoring for a dangerous activity, uncheck the ☑ next to the name in the list. Proactive Defense will no longer analyze that type of activity.

Specifics of configuring application activity control in Kaspersky Internet Security under Microsoft Windows XP Professional x64 Edition, Microsoft Windows Vista, or Microsoft Windows Vista x64:

If you are running one of the operating systems listed above, only one type of system event is controlled, *dangerous behavior*. Kaspersky Internet Security analyses the activity of applications installed on the computer and detects dangerous or suspicious activities basing on the list of rules, created by Kaspersky Lab specialists.

If you want Kaspersky Internet Security to monitor the activity of system processes in addition to user processes, select the ☑ **Watch system user accounts** checkbox (see Figure 37). This option is disabled by default.

User accounts control access to the system and identify the user and his/her work environment, which prevents other users from corrupting the operating system or data. System processes are processes launched by system user accounts.

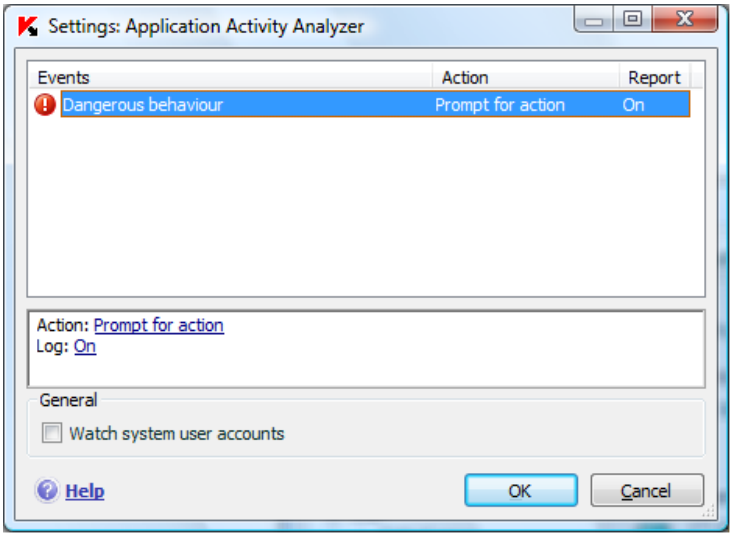


Figure 37. Configuring application activity control for Microsoft Windows XP Professional x64 Edition, Microsoft Windows Vista, Microsoft Windows Vista x64

10.2. Application Integrity Control

This Proactive Defense component does not work under Microsoft Windows XP Professional x64 Edition, or Microsoft Windows Vista or Microsoft Windows Vista x64.

There are a number of programs that are critical for the system that could be used by malicious programs to distribute themselves, such as browsers, mail clients, etc. As a rule, these are system applications and processes used for accessing the Internet, working with email and other documents. It is for this reason that these applications are considered *critical* in activity control.

Proactive Defense monitors critical applications and analyzes their activity, integrity of the modules of those applications, and observes other processes which they spawn. Kaspersky Internet Security comes with a list of critical applications, each of which has its own monitoring rule to control application activity. You can extend this list of critical applications, and delete or edit the rules for the applications on the list provided.

Besides the list of critical applications, there is a set of trusted modules allowed to be opened in all controlled applications. For example, modules that are digitally signed by the Microsoft Corporation. It is highly unlikely that the activity

of applications that include such modules could be malicious, so it is not necessary to monitor them closely. Kaspersky Lab specialists have created a list of such modules to lighten the load on your computer when using Proactive Defense.

Components with Microsoft-signed signatures are automatically designated as trusted applications. If necessary, you can add or delete components from the list.

The monitoring of processes and their integrity in the system is enabled by checking the box **Enable Application Integrity Control** in the Proactive Defense settings window: by default, the box is unchecked. If you enable this feature, each application or application module opened is checked against the critical and trusted applications list. If the application is on the list of critical applications, its activity is controlled by Proactive Defense in accordance with the rule created for it.

To configure Application Integrity Control:

1. Open the application settings window and select **Proactive Defense** under **Protection**.
2. Click the **Settings** button in the **Application Integrity Control** box (cf. Figure 35).

Let's examine working with critical and trusted processes in greater detail.

10.2.1. Configuring Application Integrity Control rules

Critical applications are executable files of programs which are extremely important to monitor, since malicious files uses such programs to distribute themselves.

A list of them was created when the application was installed, and is shown on the **Critical applications** tab (see Figure 38): each application has its own monitoring rule. A monitoring rule is created for each such application to regulate its behavior. You can edit existing rules and create your own.

Proactive Defense analyzes the following operations involving critical applications: their launch, changing the makeup of application modules, and starting an application as a child process. You can select the Proactive Defense response to each of the operations listed (allow or block the operation), and also specify whether to log component activity in the component report. The default settings allow most critical operations are allowed to start, be edited, or be started as child processes.

To add an application to the critical application list and create a rule for it:

1. Click **Add** on the **Critical applications** tab. A context menu will open: click **Browse** to open the standard file selection window, or click **Applications** to see a list of currently active applications and select one of them as necessary. The new application will be added to the top of the list, and **allow** rules (i.e. all activities are allowed) will be created for it by default. When that application is first started, the modules that it accesses will be added to the list, and those modules will similarly be given **allow** rules.

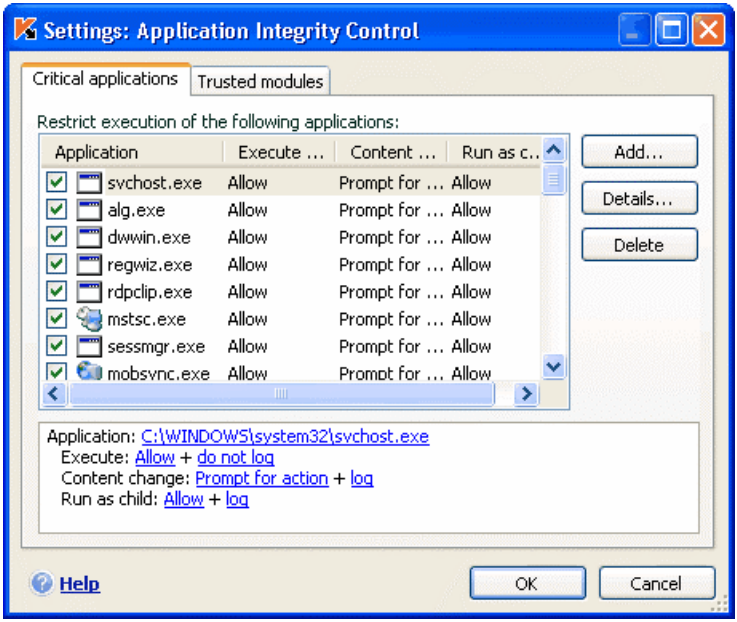


Figure 38. Configuring Application Integrity Control

2. Select a rule on the list and assign rule settings in the lower portion of the tab:

   - Define the Proactive Defense response to attempts to execute the critical application, change its makeup, or start it as a child process.

     You can use any of these actions as a response: allow, prompt for action, or block. Left-click on the action link until it reaches the value that you need.

   - Choose if you want to generate a report about the activity, by clicking log / do not log.

To turn off the monitoring of an application's activity, uncheck the ☑ next to its name.

Use the **Details** button to view a detailed list of modules for the application selected. The **Settings: Application Integrity modules** window contains a list of the modules that are used when a monitored application is started and make up the application. You can edit the list using the **Add** and **Delete** buttons in the right-hand portion of the window.

You can also allow any controlled application modules to load or block them. By default, an allow rule is created for each module. To modify the action, select the module from the list and click the **Modify** button. Select the needed action in the window that opens.

Note that Kaspersky Internet Security trains the first time you run the controlled application after installing it until you close that application. The training process produces a list of modules used by the application. Integrity Control rules will be applied the next time you run the application.

10.2.2. Creating a list of common components

Kaspersky Internet Security includes a list of common components which are allowed to be embedded into all controlled applications. You will find this list on the **Trusted modules** tab (see Figure 39). It includes modules used by Kaspersky Internet Security, Microsoft-signed components: components can be added or removed by the user.

If you install programs on your computer, you can ensure that those with modules signed by Microsoft are automatically added to the trusted modules list. To do this, check ☑ **Automatically add components signed by Microsoft Corporation to this list**. Then if a controlled application attempts to load the Microsoft-signed module, Proactive Defense will automatically allow the module to load without checking, and add it to the list of shared components.

To add to the trusted module list, click **Add** and in the standard file selection window, and select the module.

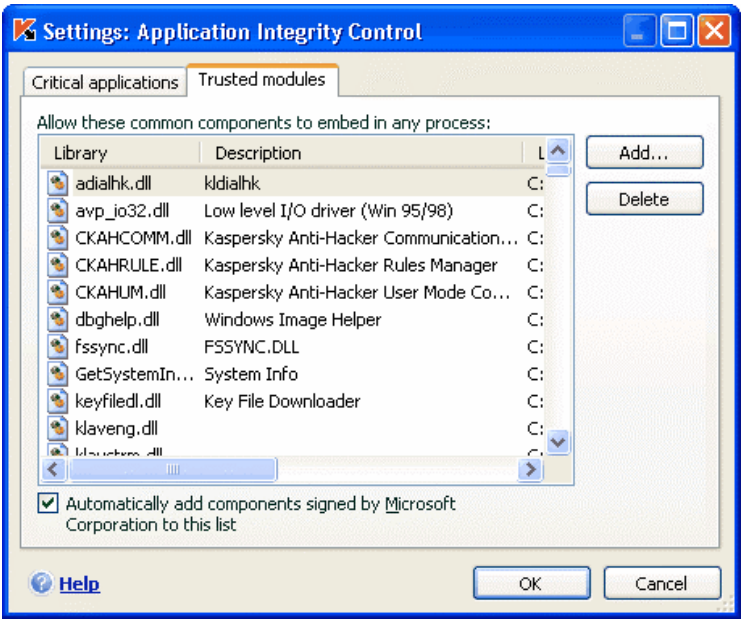


Figure 39. Configuring the trusted module list

10.3. Registry Guard

One of the goals of many malicious programs is to edit the Microsoft Windows system registry on your computer. These can either be harmless jokes, or more dangerous malware that presents a serious threat to your computer.

For example, malicious programs can copy their information to the registry key that makes applications open automatically on startup. Malicious programs will then automatically be started when the operating system boots up.

The special Proactive Defense module traces modifications of system registry objects. You can turn this module on or off by checking the box ☑ **Enable Registry Guard**.

To configure system registry monitoring:

1. Open the application settings window and select **Proactive Defense** under **Protection**.
2. Click the **Settings** button in the **Registry Guard** section (cf. Figure 35).

Kaspersky Lab has created a list of rules that control registry file operations, and have included it in the program. Operations with registry files are categorized into

logical groups such as *System Security*, *Internet Security*, etc. Each such group lists system registry files and rules for working with them. This list is updated when the rest of the application is updated.

The **Registry Guard** settings window (see Figure 40) displays the complete list of rules.

Each group of rules has an execution priority that you can raise or lower, using the **Move Up** and **Move Down** buttons. The higher the group is on the list, the higher the priority assigned to it. If the same registry file falls under several groups, the first rule applied to that file will be the one from the group with the higher priority.

You can stop using any group of rules in the following ways:

- Uncheck the box ☑ next to the group's name. Then the group of rules will remain on the list but will not be used.
- Delete the group of rules from the list. We do not recommend deleting the groups created by Kaspersky Lab, since they contain a list of system registry files most often used by malicious programs.

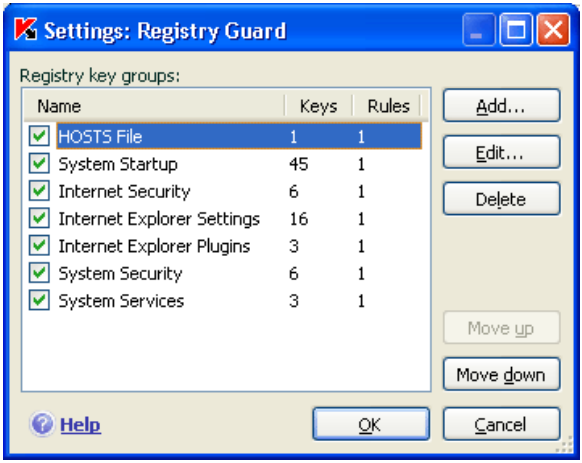


Figure 40. Controlled registry key groups

You can create your own groups of monitored system registry files. To do so, click **Add** in the file group window.

Take these steps in the window that opens:

1. Enter the name of the new file group for monitoring system registry keys in the **Group name** field.

2. Select the **Keys** tab, and create a list of registry files that will be included in the monitored group (see 10.3.1 on pg. 130) for which you want to create rules. This could be one or several keys.
3. Select the **Rules** tab, and create a rule for files (see 10.3.2 on pg. 131) that will apply to the keys selected on the Keys tab. You can create several rules and set the order in which they are applied.

10.3.1. Selecting registry keys for creating a rule

The file group created should contain at least one system registry file. The **Keys** tab provides a list of files for the rule.

To add a system registry file:

1. Click on the **Add** button in the **Edit group** window (see Figure 41).
2. In the window that opens, select the registry file, or folder of files, for which you want to create the monitoring rule.
3. Specify an object value or mask for the group of objects, to which you want the rule to apply in the **Value** field.
4. Check **Including subkeys** for the rule to apply to all files attached to the listed registry file.

You only need to use masks with an asterisk and a question mark at the same time as the **Include subkeys** feature if the wildcards are used in the name of the key.

If you select a folder of registry files using a mask and specify a specific value for it, the rule will be applied to that value for any key in the group selected.

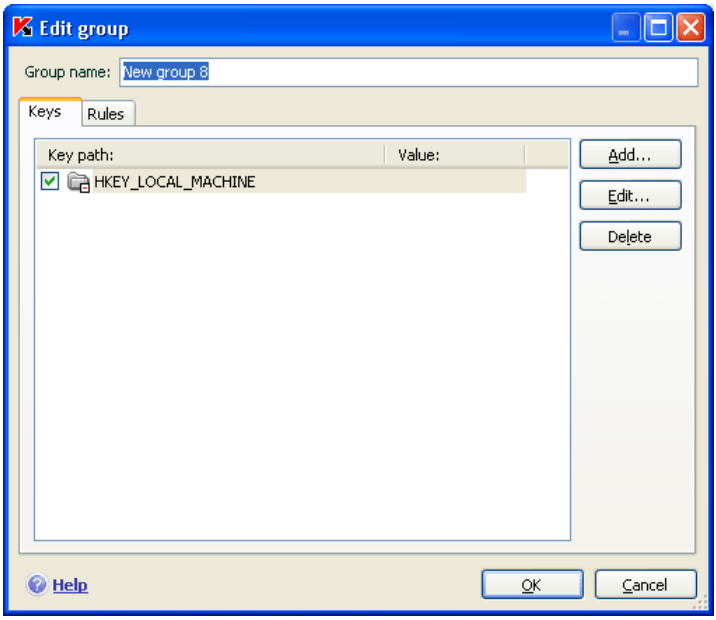


Figure 41. Adding controlled registry keys

10.3.2. Creating a Registry Guard rule

A Registry Guard rule specifies:

- The program whose access to the system registry is being monitored
- Proactive Defense's response when a program attempts to execute an operation with a system registry files

To create a rule for your selected system registry files:

1. Click **New** on the **Rules** tab. The new rule will be added at the top of the list (see Figure 42).
2. Select a rule on the list and assign the rule settings in the lower portion of the tab:
   - Specify the application.

     The rule is created for any application by default. If you want the rule to apply to a specific application, left-click on any and it will change to this. Then click on the specify application name link. A context menu will open: click **Browse** to see the standard file

selection window, or click **Applications** to see a list of open applications, and select one of them as necessary.

- Define the Proactive Defense response to the selected application attempting to read, edit, or delete system registry files.

  You can use any of these actions as a response: allow, prompt for action, and block. Left-click on the link with the action until it reaches the value that you need.

- Choose if you want to generate a report on the operation carried out, by clicking on the log / do not log link.

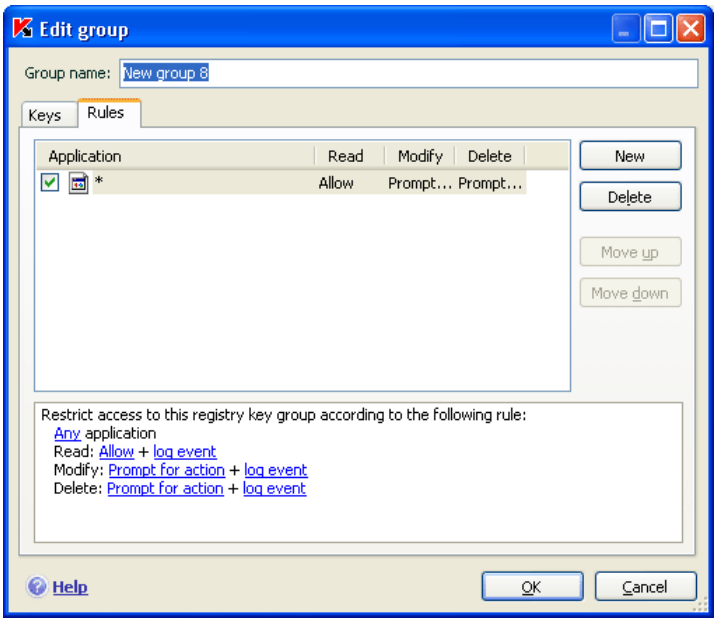


Figure 42. Creating an registry key monitoring rule

You can create several rules, and order their priority using the **Move Up** and **Move Down** buttons. The higher the rule is on the list, the higher the priority assigned to it will be.

You can also create an *allow* rule (i.e. all actions are allowed) for a system registry object from a notification window stating that a program is trying to execute an operation with an object. To do so, click Create allow rule in the notification and specify the system registry object that the rule will apply to in the window that opens.

CHAPTER 11. PROTECTION AGAINST INTERNET FRAUD

The component of Kaspersky Internet Security which protects you against all types of malware is called *Privacy Control*. Recently, malware has increasingly included programs that aim to:

- Steal your confidential information, including passwords, credit card numbers, important documents, etc.
- Track your actions on the computer and analyze the software installed on it.
- Gain unauthorized access to the Internet from your computer to various websites.

Phishing and keyloggers focus on stealing your information; autodialers, joke programs, and adware aim to waste your time and money. Protecting you from these programs is what Privacy Control is designed to do.

Privacy Control includes the following modules:

- The *Anti-Phishing* component protects you against phishing.

  Phishing generally consists of emails from supposed financial institutions, that contain links to their websites. The message text convinces the reader to click a link and enter confidential information into a web page, for example, a credit card number, or a login and password for an real Internet banking site.

  A common example of phishing is an email purporting to come from your bank, with a link to the official site. By clicking the link, you go to an exact copy of the bank's website and can even see the address in the browser's address bar, but are looking at page of a counterfeit site. From this point forward all actions which you take on the site are tracked and can be used to steal your money.

  You might receive a link to a phishing site via email, or through an instant messenger program. Anti-Phishing tracks attempts to open phishing sites and blocks them.

  The Kaspersky Internet Security databases include the addresses of all phishing sites currently known. Kaspersky Lab specialists populate the list with addresses obtained from the Anti-Phishing Working Group, an international organization. Sites are added to the list by updating application databases.

- *Anti-Dialer* protects computers against attempts to make unauthorized modem connections.

  Dialers generally establish connections with specific websites, such as sites with pornographic material. Then you are forced to pay for expensive traffic that you never wanted or used. If you want to exclude a number from the blocked list, you must place it on the trusted numbers list (see 11.1 on pg. 134).

- The Privacy Control module intercepts attempts at at unauthorized transmission of confidential information from your computer (cf. Section 11.2, p. 136).

  Confidential information includes, above all, data located in Windows Protected Storage (local passwords, e-mail client passwords, Auto-Complete information, etc.).

  In addition, this Privacy Control module analyzes any attempt to transmit information from your computer using a hidden process, such as a web browser.

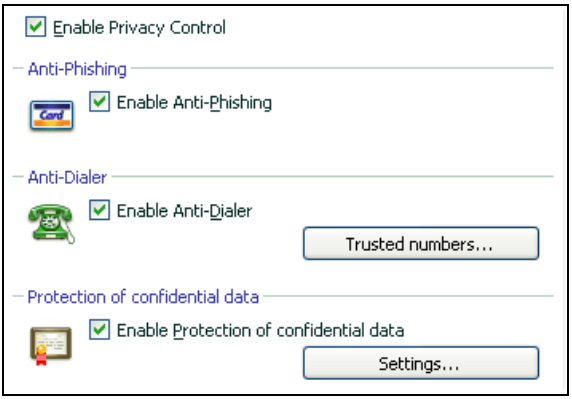


Figure 43. Privacy Control Settings

11.1. Creating an Anti-Dialer trusted number list

The *Anti-Dialer* component monitors telephone numbers used to secretly connect to the Internet. A connection is considered secret if it is configured not to inform the user of the connection, or if it is a connection that you do not initialize.

Whenever a secret connection is attempted, the program notifies you by issuing a special message on the screen, which prompts the user to either allow or block the phone call. If you did not initialize the connection, it is very probable that it was configured by a malicious program.

If you want to allow to make connections to certain numbers without being asked to confirm them every time, you must add them to the trusted number list. To do so:

1. Open the application settings window and select **Privacy Control** under **Protection**.
2. Check **Enable Anti-**Dialer and click the **Trusted Numbers** button under **Anti-Dialer** (cf. Figure 43).
3. Click **Add** in the resulting dialog (cf. Figure 44). Specify number or number mask to be allowed in the **New Phone Number** window.

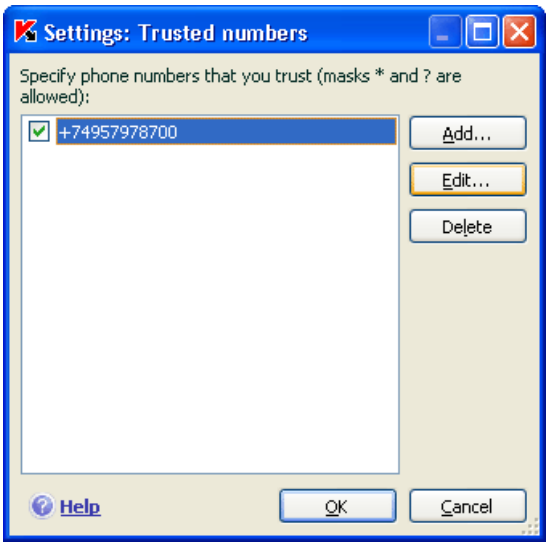


Figure 44. Creating a trusted address list

Tip:

When entering a trusted number mask, you can use the characters ***** or **?**.

For example, *+???? 79787** will cover any numbers beginning with 79787 for which the area code is four digits.

The new telephone number will be added at the top of the trusted number list. To stop using the number exclusion that you have added, just uncheck the box

next to it on the list. If you want to remove an exclusion entirely, select it on the list and click **Delete**.

11.2. Protection of confidential data

Privacy Control includes a *Protection of confidential data* module that keeps your confidential information secure from unauthorized access and transmission.

To enable the modules, select **Enable Protection of confidential data** in the **Privacy Control** settings window (cf. Figure 43).

This module controls the following methods of accessing confidential data:

- Attempt to send personal data.

  To send data with this method, malicious code runs a hidden process on your computer, generally a web browser, such as *iexplorer.exe*. Since the firewall always allows the activity of these programs, the appearance of such a process is nothing to signal of a potential threat. This process serves as transport for sending any data from your computer via http. The data are extracted from the corresponding file and are encrypted for transmission.

- Attempt to access personal data or passwords located in Protected Storage.

  This Microsoft Windows feature stores secret data, such as local passwords, POP and SMTP e-mail passwords, Internet access passwords, passwords for automatic login to secure areas of websites, web data, passwords for Auto-Complete, etc.

  This data is entered in the corresponding files of mail clients and browsers. You generally have the option of saving the data in these input field. You must select a checkbox to do so. In such a case, Windows saves the data entered in Protected Storage.

  It should be noted that even users who guard against data leaks from Protected Storage and for that reason do not save passwords and data in browsers usually save e-mail passwords, since entering them every time you send or receive e-mail would take too much time. Taking into account that ISPs often have the save Internet access and e-mail passwords, retrieving it might provide access both to your inboxes and your Internet connection.

  Data from Protected Storage can be extracted using special spyware and then be send to hackers. To prevent this, the *Protection of confidential data* module notifies you of each attempt to read data from Protected Storage by an application that is not digitally signed by Microsoft

Corporation. Depending on whether you trusted the application attempting to access data from Storage, you can allow or block execution of this operation.

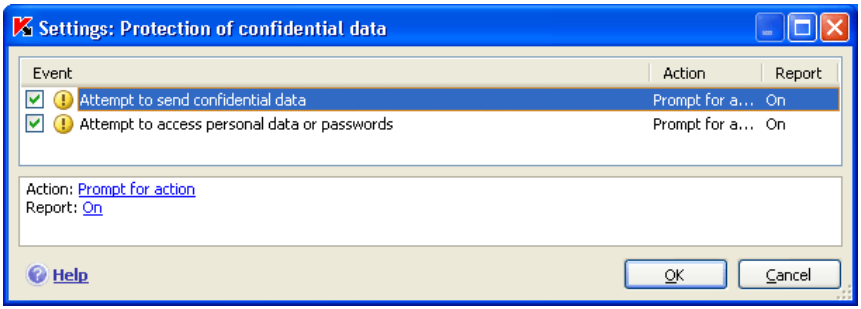


Figure 45. Settings: Protection of Confidential Data

To configure settings for Protection of confidential data, take the following steps:

1. Open the application settings window and select **Privacy Control** under **Protection**.
2. Check **Enable Protection of Confidential Data** and click **Settings** under **Protection of Confidential Data** (cf. Figure 45).

In the **Settings: Protection of Confidential Data** window, select the checkboxes across from the events that the module should monitor. To stop monitoring an event, deselect the checkbox next to its name in the list.

To edit a rule for monitoring access to confidential data, select it from the list and assign the settings for the rule in the lower part of the window:

- Define the reactions of the Privacy Control module for that event.

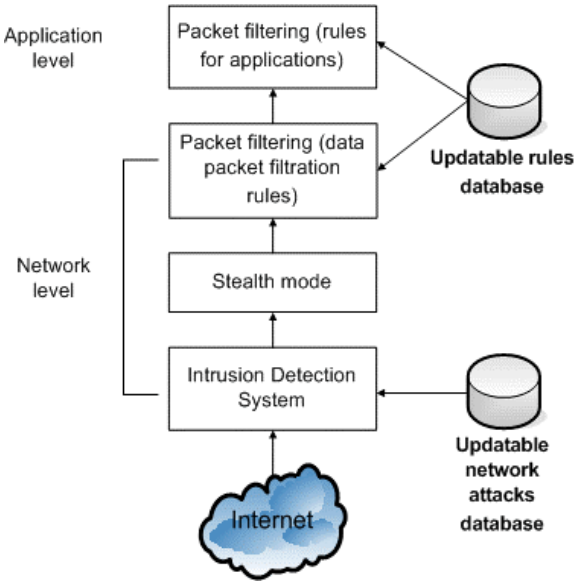
  You can assign any of the following actions as a response: block, allow, prompt for action, and terminate process. Left-click on the link with the action until it reaches the value that you need. In addition to stopping the process, you can quarantine the application attempting to access the data. To do so, use the On / Off link across from the appropriate setting.

- Choose if you want to generate a report on the operation carried out. To do so, use the On / Off link.

CHAPTER 12. PROTECTION AGAINST NETWORK ATTACKS

Today computers have become quite vulnerable when connected to the Internet. They are subjected both to virus infections and to other types of attacks that take advantage of vulnerabilities in operating systems and software.

The Kaspersky Internet Security *Firewall* component ensures your security on local networks and the Internet, by protecting your computer at the network and application levels, and masking your computer on the net to prevent attacks. Let's take a closer look at how Firewall works.



You are protected at the network level through global packet filtration rules, in which network activity is allowed or blocked, based on an analysis of settings such as: packet direction, the data transfer protocol for the packet, and the outbound packet port. Rules for data packets establish access to the network, regardless of the applications installed on your computer that use the network.

In addition to the packet filtration rules, the Intrusion Detection System (IDS) provides additional security at the network level. The goal of the IDS is to analyze inbound connections, detect port scans on your computer, and filter network packets aimed at exploiting software vulnerabilities. When running, the IDS blocks all inbound connections from an attacking computer for a certain amount of time, and the user receives a message stating that his computer was subjected to an attempted network attack.

The Intrusion Detection System uses a special network attack database in analysis, which Kaspersky Lab adds to regularly, and is updated together with the application databases.

Your computer is protected at the application level by making your computer's installed applications follow Firewall's application rules for the use of network resources. Similarly to the network security level, the application level security is built on analyzing data packets for direction, transfer protocol, and what ports they use. However, at the application level, both data packet traits and the specific application that sends and receives the packet are taken into account.

Using application rules helps you to configure specific protection allowing, for example, a certain connection type to be banned for some applications but not for others.

There are two Firewall rule types, based on the two Firewall security levels:

- *Packet filtering rules* (see 12.1.1.3, p. 147). Used to create general restrictions on network activity, regardless of the applications installed. Example: if you create a packet filtering rule that blocks inbound connections on port 21, no applications that use that port (an ftp server, for example) will be accessible from the outside.

- *Application rules* (see 12.1.1.2, p. 143). Used to create restrictions on network activity for specific applications. Example: If connections on port 80 are blocked for each application, you can create a rule that allows connections on that port for Firefox only.

There are two types of application and packet filtering rules: *allow* and *block*. The program installation includes rules which regulate network activity for the commonest applications and using the commonest protocols and ports. Kaspersky Internet Security also includes a set of allow rules for trusted applications whose network activity is not suspect.

Kaspersky Internet Security breaks down the entire network space into *security zones* to make settings and rules more user-friendly, which largely correspond to the subnets that your computer belongs to. You can assign a status to each zone (*Internet, Local Area Network, Trusted*), which determine the policy for applying rules and monitoring network activity in that zone (see 12.1.1.5 on pg. 152).

A special feature of Firewall, *Stealth Mode*, prevents the computer from being detected from the outside, so that hackers cannot detect the computer to attack

it. This mode does not affect your computer's performance on the Internet: you are advised not to use Stealth Mode if your computer is functioning as a server.

In addition, numerous programs have emerged that are designed to obtrusively deliver advertising content in web browsers, popup windows, and banners in various programs. These programs do not pose a direct threat. However, they boost network traffic and consequently waste the user's time and cause financial losses.

In addition, Firewall includes two modules: Anti-Publicity (cf. Section 12.1.3, p. 157) and Anti-Banner (cf. Section 12.1.4, p. 159) which filter traffic for persistent advertisements. Recently, a multitude of programs emerged to display various advertisements in browser windows, popup windows, and various banners. These programs are not a direct threat; however, they increase network traffic, cause users to waste time, and to suffer damages.

12.1. Configuring Firewall

While on a network, your computer is protected by the following Firewall modules:

- Filtering System (cf. Section 12.1.1, p. 141) which filters incoming and outgoing traffic at the network (packet) and application (program) levels.

  Traffic is filtered based on the configured security level and a continuously updating database of allow and deny rules. To simplify rule configuration and application, the entire global network is partitioned into security areas depending on the associated risk.

- Intrusion Detection System (cf. Section 12.1.2, p. 156) which protects your computer from all currently known network exploits. The exploit database is continuously updated by Kaspersky Lab specialists, and updates are downloaded together with the application databases.

- Anti-Publicity module (cf. Section 12.1.3, p. 157), which is a pop-up blocker.

- Anti-Banner module (cf. Section 12.1.4, p. 159), which is a banner blocker.

All Firewall modules are enabled by default. Firewall or its individual modules may be disabled and configured. To accomplish this:

open the application settings window and select **Firewall** under **Protection**. To activate the Firewall component, check **Enable Firewall**. Individual modules may be enabled / disabled and fine-tuned in the appropriate areas of the settings window (cf. Figure 46).

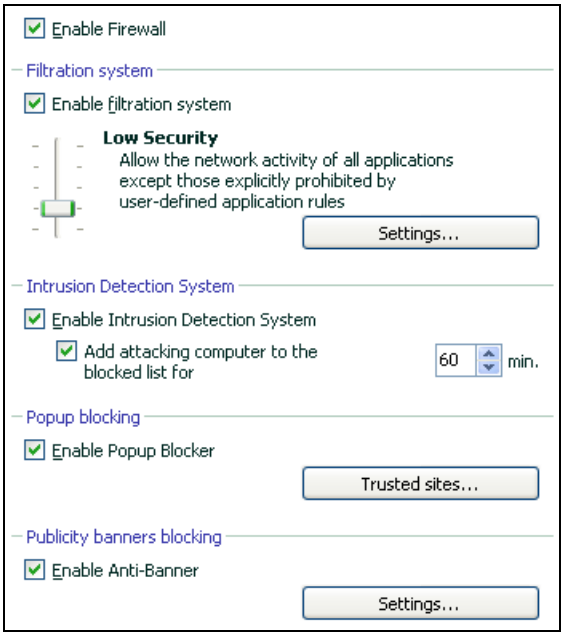


Figure 46. Configuring Firewall

12.1.1. Configuring Filters

Filtration system is a Firewall module that protects your computer while on the Internet. This module filters inbound and outbound traffic on the network/packet and application levels. Traffic is filtered using an updateable database of "allow" and "block" rules. To make configuring and applying rules easier, all network space is divided into security zones depending on the degree of risk they pose.

The following settings may be configured for the filtering system:

- Level of protection from network attacks (cf. Section 12.1.1.1, p. 142)
- Application rules (cf. Section 12.1.1.2, p. 143)
- Packet filtering rules (cf. Section 12.1.1.3, p. 147)
- Rules for security zones (cf. Section 12.1.1.6, p. 152)
- Firewall mode (cf. Section 12.1.1.7, p. 155)

12.1.1.1. Selecting Security Level

When you use the network, Kaspersky Internet Security protects your computer at one of the following levels (see Figure 47):

Block all – blocks any network activity on your computer. If you select this security level, you will not be able to use any network resources or programs that require a network connection. We recommend that you only select this level in the event of a network attack or when using a dangerous network on an insecure connection.

Figure 47. Selecting an Firewall security level

High Security – a security level which allows only network activity for which an allow rule exists. Firewall uses preconfigured and user-defined rules. The set of rules included with Kaspersky Internet Security includes allow rules for applications whose network activity is not suspicious, and for data packets that are absolutely safe to send and receive. However, if there is a block rule with a higher priority than the allow rule, the program will block the network activity of that application.

> Warning!
>
> If you select this security level, any network activity not recorded in an Firewall allow rule will be blocked. Therefore we recommend only using this level if you are certain that all the programs you need are allowed by the rules to make network connections, and that you do not plan on installing new software.

Training mode – security level where Firewall rules are created. At this level, whenever a program attempts to use a network resource, Firewall checks to see if there is a rule for that connection. If there is a rule, Firewall applies it. If there is no rule, a message will appear on the screen, containing a description of the network connection (what program initiated it, what port, the protocol, etc.). You must decide whether to allow this connection or not. Using a special button in the message window, you can create a rule for that connection, so that in

the future Firewall will apply the new rule for that connection without warning you on screen.

Low Security – blocks only banned network activity, using block rules that either were installed by with the program or that you created. However, if there is a allow rule for an application with a higher priority than the block rule, the program will allow the network activity of that application.

Allow all – allows all network activity on your computer. You are advised to set protection to this level in extremely rare cases, when no active network attacks have been observed and you fully trust all network activity.

You can raise or lower the network security level by selected the existing level you want, or by changing the settings for the current level.

To modify the network security level:

1. Open the application settings window and select **Firewall** under **Protection**.
2. Adjust the slider under **Enable Filtration System** in the right window pane (cf. Figure 47).

To configure the network security level:

1. Select the security level that best matches your preferences, as above.
2. Click on **Settings** under **Filtration System** and edit the Filtration System module settings in the **Settings: Firewall** dialog.

12.1.1.2. Application rules

Kaspersky Internet Security includes a set of rules for the commonest Microsoft Windows applications. These are programs whose network activity has been analyzed in detail by Kaspersky Lab, and is strictly defined as either dangerous or trusted.

Depending on the security level (see 12.1.1.1 on pg. 142) selected for the Firewall, and the type of network (see 12.1.1.5 on pg. 152) on which the computer is running, the list of rules for programs can be used in various ways. For example, with **Maximum protection** any application network activity that does not match the allow rules is blocked.

To work with the application rule list:

1. Open the application settings window and select **Firewall** under **Protection** (cf Figure 47).
2. Click on **Settings** under **Enable Filtration System**.

3. Select the **Rules for Application** tab in the **Settings: Firewall** dialog (see Figure 51).

The rules on this tab can be grouped in one of two ways:

- *Application rules.* If **Group the rules by application** is checked, then each application for which rules have been created will be shown on a single line in the list. The following information is given for every application: name and icon of the application, command prompt, root directory containing the application's executable file is, and the number of rules created for it.

  Using the **Edit** button, you can go to the list of rules for the application selected on the list and edit it: add a new rule, edit existing ones, and change their relative priority.

  Using the **Add** button, you can add a new application to the list and create a rule for it.

  The **Export** and **Import** buttons are designed to transfer the rules to other computers, which helps to configure Firewall quickly.

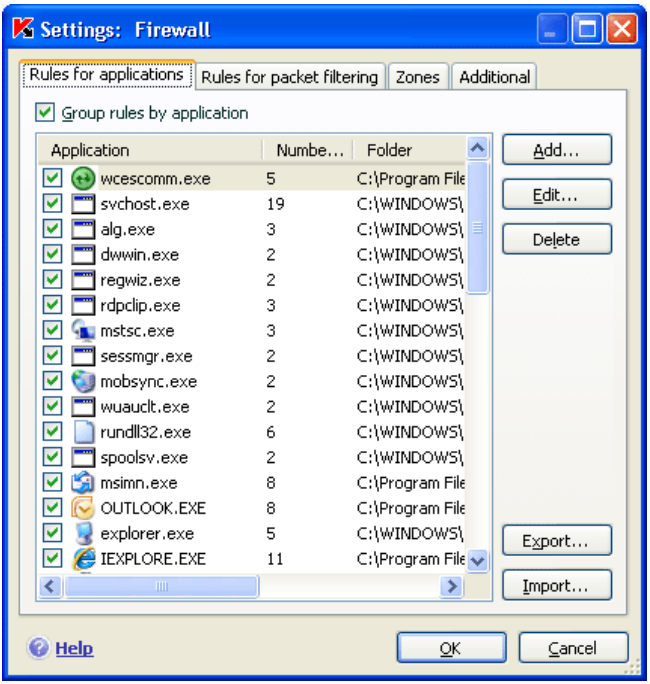


Figure 48. List of rules for the applications installed on a computer

- *General list of rules.* If **Group the rules by application** is unchecked, then each line in the general list displays complete information for a rule: the application name and the command for starting it, whether to allow or block network activity, the data transfer protocol, the direction of data (inbound or outbound), and other information.

  Using the **Add** button, you can create a new rule, and you can alter an existing rule by selecting it on the list and clicking the **Edit** button. You can also edit the basic settings in the lower part of the tab.

  You can change their relative priority with the **Move up** and **Move down** buttons.

12.1.1.2.1. Creating rules manually

To create an application rule manually:

1. Select the application. To do so, click the **Add** button on the **Rules for Applications** tab. This will display a context menu which will take you to a standard file selection dialog through its **Browse** option or to a list of running applications through its **Applications** option allowing you to make your selection. A list of rules for the application selected will open. If rules for it already exist, they will all be listed in the upper part of the window. If no rules exist, the rules window will be empty.
2. Click **Add** in the rules window for the selected application.

You can use the **New rule** window that opens to fine-tune a rule (see 12.1.1.6 on pg.152).

12.1.1.2.2. Creating rules from template

Anti-Virus includes ready-made rule templates that you can use when creating your own rules.

The entire gamut of existent network application can be broken down into several types: mail clients, web browsers, etc. Each type is characterized by a set of specific activities, such as sending and receiving mail, or receiving and displaying html pages. Each type uses a certain set of network protocols and ports. This is why having rule templates helps to quickly and easily make initial configurations for rules based on the type of application.

To create an application rule from a template:

1. Check **Group the rules by application** on the **Rules for applications** tab, if not checked already, and click the **Add** button.

2. This will display a context menu which will take you to a standard file selection dialog through its **Browse** option or to a list of running applications through its **Applications** option allowing you to make your selection. This, in turn, will open a rules window for the selected application. Rules for the application will be displayed in the top part of the window. If there are no rules, the window will be empty.

3. Click **Template** in the rules for applications window and select one of the rule templates from the context menu (see Figure 51).

   Allow all is a rule that allows all network activity for the application. **Block all** is a rule that blocks all network activity for the application. All attempts to initiate a network connection by the application in question will be blocked without notifying the user.

   Other templates listed on the context menu create rules typical for the corresponding types of program. For example, the **Mail Client** template creates a set of rules that allow standard network activity for email clients, such as sending email.

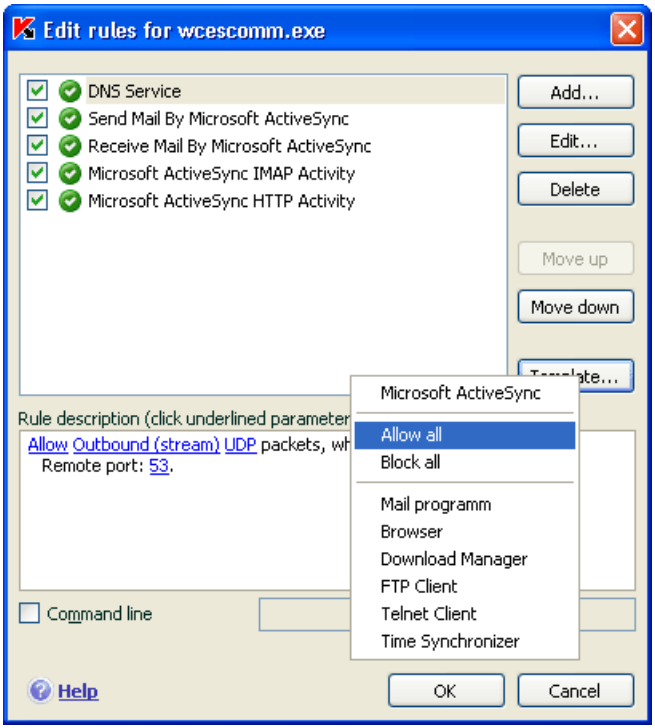


Figure 49. Selecting a template for creating a new rule

4. Edit the rules created for the application, if necessary. You can modify actions, network connection direction, remote address, ports (local and remote), and the time range for the rule.
5. If you want the rule to apply to a program opened with certain command line settings, check **Command line** and enter the string in the field to the right.

The rule or set of rules created will be added to the end of the list with the lowest ranking priority. You can raise the priority of the rule (see 12.1.1.5 on pg. 152).

You can create a rule from the network activity detection alert window (see 12.3 on pg. 165).

12.1.1.3. Packet filtering rules

Kaspersky Internet Security includes a set of rules that it uses to filter incoming and outgoing data packets for your computer. You can initiate data packet transfer or an installed program on your computer can. The program includes filtering packet rules, devised by Kaspersky Lab, which determine whether data packets are dangerous or not.

Depending on the security level selected for the Firewall and the type of network the computer is running on, the list of rules can be used in various ways. Thus, for example, on the **Maximum security** level, all network activity not covered by allow rules is blocked.

Warning!

Note that rules for security zones have higher priority than blocking packet rules. Thus, for example, if you select the status **Local Area Network**, packet exchanges will be allowed, and so will access to shared folders regardless of blocking packet rules.

To work with the list of packet filtering rules:

1. Open the application settings window and select **Firewall** under **Protection**.
2. Click on **Settings** under **Filtration System** (cf. Figure 47).
3. Select the **Rules for Packet Filtering** tab in the **Settings: Firewall** window (cf. Figure 52).

The following information is given for every packet filtering rule: name of the rule, the action (i.e. whether to allow or block the packet transfer), the data transfer protocol, the direction of the packet, and the network connection settings used to transfer the packet.

If the box beside the name of the rule is checked, the rule will be used.

You can work with the rule list using the buttons to the right of the list.

To create a new packet filtration rule:

Click the **Add** button on the **Rules for packet filtering** tab.

The **New rule** window that opens has a form that you can use to fine-tune a rule (see section 12.1.1.4 on pg. 148).

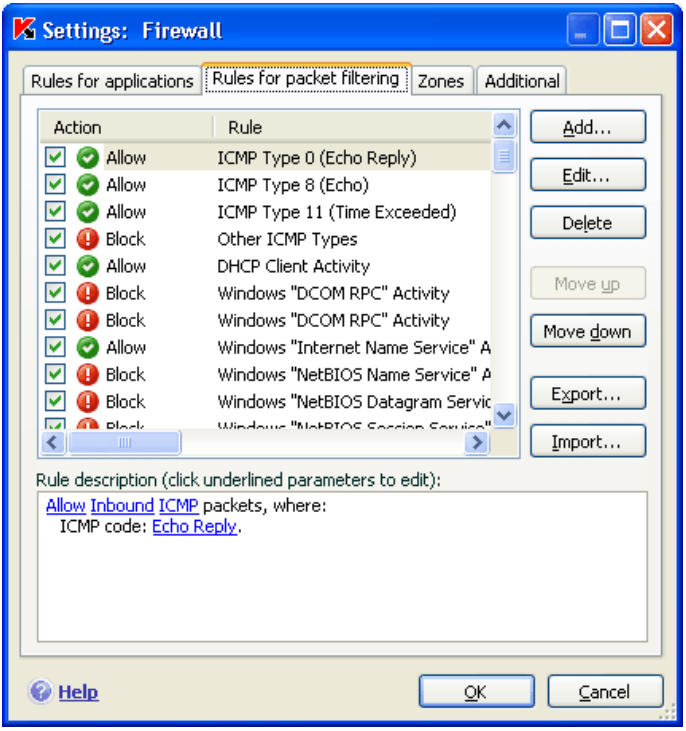


Figure 50. List of packet filtering rules

12.1.1.4. Fine-tuning rules for applications and packet filtering

The **New rule** window for advanced rule settings is practically identical for applications and data packets (see Figure 51).

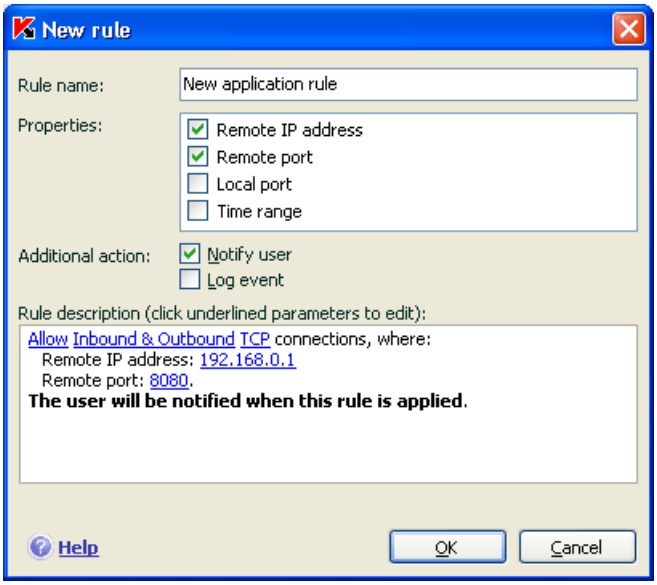


Figure 51. Creating a new application rule

Step One:

- Enter a name for the rule. The program uses a default name that you should replace.
- Select network connection settings for the rule: remote IP address, remote port, local IP address, and the time that the rule was applied. Check all the settings that you want to use in the rule.
- Configure settings for user notifications. If you want a popup message with a brief commentary to appear on the screen when a rule is used, check **Notify User**. If you want the program to record invocations of the rule in the Firewall report, check **Log event**. The box is not checked by default when the rule is created. You are advised to use additional settings when creating block rules.

> Note that when you a create a blocking rule in Firewall training mode, information about the rule being applied will automatically be entered in the report. If you do not need to record this information, deselect the **Log event** checkbox in the settings for that rule.

Step Two in creating a rule is assigning values for rule parameters and selecting actions. These operations are carried out in the **Rule Description** section.

1. The default action of every new rule is *allow*. To change it to a *block* rule, left-click on the Allow link in the rule description section. It will change to Block.

   Kaspersky Internet Security will still scan network traffic for programs and packets for which an allow rule as been created. This could result in data being transmitted more slowly.

2. If you did not select an application prior to creating the rule, you will need to do so by clicking select application. Left-click on the link and, in the standard file selection window that opens, select the executable file of the application for which you are creating the rule.

3. Determine the direction of the network connection for the rule. The default value is a rule for a bi-directional (both inbound and outbound) network connection. To change the direction, left-click on incoming and outgoing and select the direction of the network connection in the window that opens:

   - **Inbound stream**. The rule is applied to network connections opened by a remote computer.
   - **Inbound packet**. The rule applies to data packets received by your computer, except for TCP-packets.
   - **Inbound and outbound streams**. The rule is applied to inbound and outbound traffic regardless of which computer, the local one or the remote one, initiated the network connection.
   - **Outbound stream**. The rule is only applied to network connections opened by your computer.
   - **Outbound packet**. The rule is applied for inbound data packets that your computer sends, except for TCP-packets.

   If it is important for you to specifically set the direction of packets in the rule. Select whether they are inbound or outbound packets. If you want to create a rule for streaming data, select stream: inbound, outbound, or both.

   The difference between *stream direction* and *packet direction* is that when you create a rule for a stream, you define the direction of the connection. The direction of packets when transferring data on this connection is not taken into consideration.

   For example, if you configure a rule for data exchange with an FTP server that is running in passive mode, you must allow an outbound stream. To exchange data with an FTP server in active mode, you must allow both outbound and inbound streams.

4. If you selected a remote address as a network connection property, left-click specify the address and enter the IP address, a range of addresses or subnetwork address for the rule in the window that opens. You can use one type of IP address or several types for one rule. Several addresses of each type can be specified.

5. Set the protocol that the network connection uses. TCP is the default protocol for the connection. If you are creating a rule for applications, you can select one of two protocols, TCP or UDP. To do so, left-click on the link with the protocol name until it reaches the value that you need. If you are creating a rule for packet filtering and want to change the default protocol, click on its name and select the protocol you need in the window that opens. If you select ICMP, you may need to further indicate the type.

6. If you selected network connection settings (address, port, time range), you will have to assign them exact values as well.

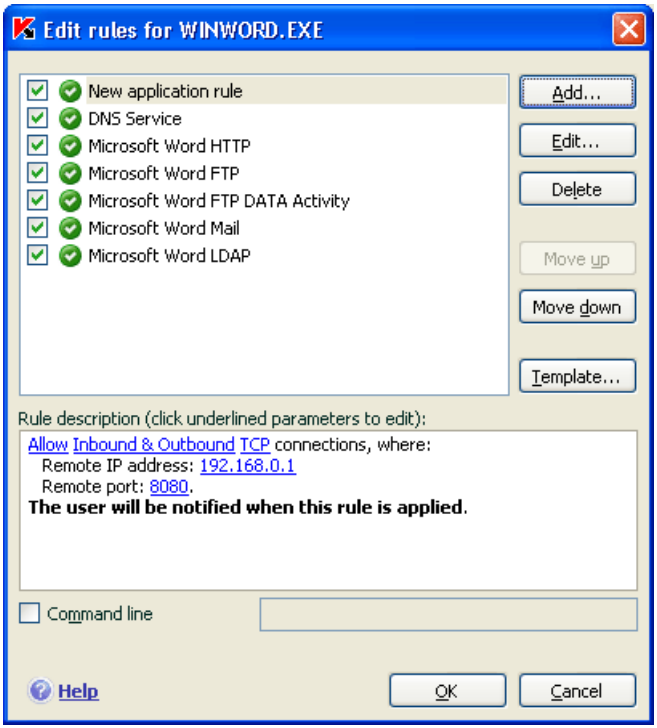


Figure 52. Advanced new rule settings

After the rule is added to the list of rules for the application, you can further configure the rule (see Figure 52). If you want it to apply to an application opened with certain command line parameters, check **Command line** and enter the parameter string in the field to the right. This rule will not apply to applications started with a different command line.

You can create a rule from the network activity detection alert window (see 12.3 on pg. 165).

12.1.1.5. Ranking rule priority

A priority rating is set for every packet or application rule created. When other conditions are equal (for example, the network connection settings), the action applied to the program activity will be the rule with the higher priority.

The priority of a rule is determined by its position on the list of rules. The first rule on the list has the highest priority. Each rule created manually is added at the top of the list. Rules created from a template or from a notification are added at the bottom of the list.

To prioritize application rules, take the following steps:

1. Select the application name on the **Rules for applications** tab and click **Add**.
2. Use the **Move up** and **Move down** buttons on the application rules tab to move rules on the list, changing their priority ranking.

To prioritize packet filtering rules, take the following steps:

1. Select the rule on the **Rules for Packet Filtering** tab.
2. Use **Move Up** and **Move Down** buttons to move rules around in the list changing their priority.

12.1.1.6. Rules for security zones

After you install Firewall on your computer, it analyzes your computer's network environment. Based on the analysis, it breaks down the entire network space into zones:

Internet – the World Wide Web. In this zone, Kaspersky Internet Security operates as a personal firewall, using default application and packet filtering rules to regulate all network activity and ensure maximum security. You cannot change protection settings when working in this zone, other than to enable Stealth Mode on your computer for added safety.

Security zones – certain conventional zones that mostly correspond with subnets that your computer is registered on (this could be local subnets at home or at work). These zones are usually average risk-level zones. You can change the status of these zones based on how much you trust a certain subnet, and you can configure appropriate rules for packet filtering and applications.

If Firewall Training Mode is enabled, a window will open every time your computer connects to a new zone, displaying a basic description about it. You must assign a status to the zone, and network activity will be allowed based on that status. The possible values of the status are as follows:

- **Internet**. This is the default status assigned to the Internet, since when you are connected to it, your computer is subjected to all potential threat types. This status is also recommended for networks that are not protected by any anti-virus programs, firewalls, filters, etc. When you select this status, the program ensures maximum security while you are using this zone, specifically:
  - Blocking any network NetBios activity within the subnet
  - Blocking application and packet filtering rules that allow NetBios activity within this subnet

  Even if you have created a shared folder, the information in it will not be available to users from subnetworks with this status. Additionally, if this status is selected for a certain subnetwork, you will not be able to access files and printers of this subnetwork.
- **Local Network**. The program assigns this status to all zones detected when it analyzes the computer's network environment, except the Internet. This status is recommended for zones with an average risk factor (for example, corporate LANs). If you select this status, the program allows:
  - Any network NetBios activity within the subnet
  - Application and packet filtering rules that allow NetBios activity within this subnet

  Select this status if you want to grant access to certain folders or printers on your computer but block any other outside activity.
- **Trusted**. This status is only recommended for zones that you feel are absolutely safe, and where your computer will not be subject to attacks or invasions. If you select this status, all network activity is allowed. Even if Maximum Protection is selected and you have created block rules, they will not function for remote computers from a trusted zone.

Note that any restrictions of access to files is only in effect without this subnet.

You can use Stealth Mode for added security when using networks designated **Internet**. This feature only allows network activity initiated from your computer, so that your computer becomes invisible to its surroundings. This mode does not affect your computer's performance on the Internet.

We do not recommend using Stealth Mode if the computer is being used as a server (for example, an email or HTTP server), as the computers that connect to the server will not see it as connected.

The list of zones on which your computer is registered is displayed on the **Zones** tab (see Figure 53). Each of them is assigned a status, a brief description of the network, and whether Stealth Mode is used.

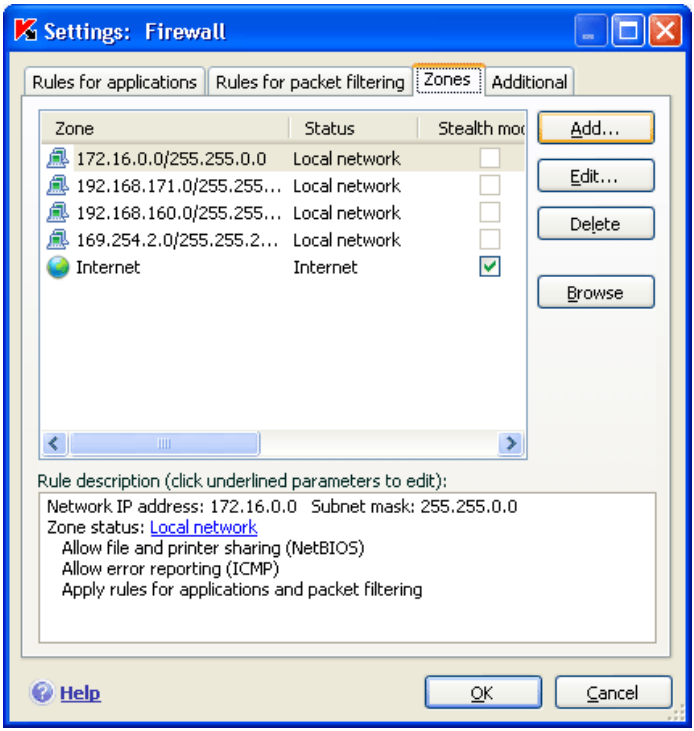


Figure 53. List of rules for zones

To change a zone's status, or to enable/disable Stealth Mode, select the zone from the list, and use the appropriate links in the **Rule Description** box below the list. You can perform similar tasks and edit addresses and subnet masks in the **Zone settings** window, which you can open by clicking **Edit**.

You can add a new zone to the list while viewing it. To do so, click **Refresh**. Firewall will search for potential zones to register, and if any are detected, the program will ask you to select a status for them. In addition, you can add new zones to the list manually (for example, if you connect your laptop to a new network). To do so, use the **Add** button and fill in the necessary information in the **Zone Settings** window.

To delete a network from the list, select it in the list and click on the **Delete** button.

12.1.1.7. Firewall Mode

The Firewall mode (cf. Figure 54) controls Firewall compatibility with programs that establish multiple network connections, and to network games.

Maximum compatibility – the Firewall ensures that Firewall will work optimally with programs that establish multiple network connections, for example, file-sharing network clients. However, this mode may lead to slow reaction time in network games. If you encounter such problems, you are advised to use **High Speed**.

Maximum speed – the Firewall ensures the best possible reaction time during network games. However, file-sharing network clients and other network applications may experience conflicts with this mode. To solve the problem, disable Stealth Mode.

To select a Firewall mode:

1. Open the application settings window and select **Firewall** under **Protection**.
2. Click on **Settings** under **Enable Filtration System** (cf. Figure 47).
3. Select the **Additional** tab in the **Settings: Firewall** window and configure **Maximum Compatibility** or **Maximum Speed**.

Changes to the Firewall settings will not take effect until after Firewall has been restarted.

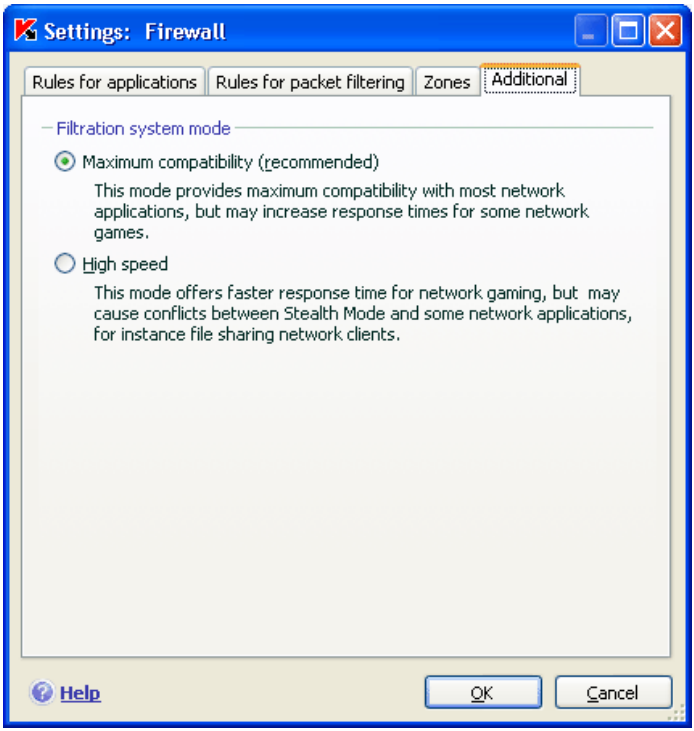

Settings: Firewall
Rules for applications
Rules for packet filtering
Zones
Additional
Filtration system mode
Maximum compatibility (recommended)
This mode provides maximum compatibility with most network applications, but may increase response times for some network games.
High speed
This mode offers faster response time for network gaming, but may cause conflicts between Stealth Mode and some network applications, for instance file sharing network clients.
Help
OK
Cancel

Figure 54. Selecting an Firewall mode

12.1.2. Intrusion Detection System

All currently known network attacks to which computers are susceptible are listed in the Firewall databases which are a subset of the application databases. This list of attacks lies at the core of the Firewall Intrusion Detection System module. The list of exploits which this module is capable of detecting is updated during a database update (cf. Chapter 16, p. 217).

The Intrusion Detection System tracks network activity typical of network attacks and if it detects an attempt to attack your computer, it blocks all network activity between the remote computer and your computer for one hour. A warning will appear on the screen stating that a network attack attempt has taken place, with specific information about the computer which attacked you.

You can configure the Intrusion Detection System. To do so:

1. Open the application settings window and select **Firewall** under **Protection**.

2. Check **Enable Intrusion Detection System** and specify whether the attacking computer is to be added to the blocked list and for how long. By default, the attacking computer will be blocked for 60 minutes. This time can be increased or decreased by modifying the value of the field located next to the checkbox **Add attacking computer to blocked list for … min.** Uncheck this option if you do not want to block the attacking computer's network activity targeting your computer.

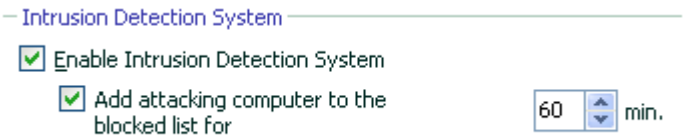


Figure 55. Configuring the block time for attacking computers

12.1.3. Anti-Publicity

Anti-Publicity blocks access to internet resources containing advertising information such as popup windows.

Popup windows do not usually display useful information. These windows are opened automatically when a web site is first loaded or when a hyperlink is followed. They contain advertising and other information that you did nothing to request. Anti-Publicity blocks these windows and displays a special balloon message above the application icon in the system tray. This message may be used directly to block or allow the popup.

Anti-Publicity is compatible with the Microsoft Internet Explorer popup blocker bundled with Microsoft Windows XP Service Pack 2. The application installs a browser plugin which controls the opening of popup windows in the browser directly.

There are some web sites which use popup windows for faster and more convenient navigation. If you access such sites frequently, and the information in such popup windows is critical, we recommend that you add them to the trusted site list. Popup windows at trusted sites will not be blocked.

When a popup is blocked during a Microsoft Internet Explorer session, the icon is displayed in the browser status line. A popup may be unblocked or a site added to the trusted list by clicking the icon.

By default, the Anti-Publicity module blocks the majority of automatic popup windows. The exception is popup windows from websites on the trusted site list in Microsoft Internet Explorer, and Intranet sites that you currently a part of.

If you are running Microsoft Windows XP with Service Pack 2, Internet Explorer already has its own popup blocker, which you can configure, selecting which particular windows you want to block and which you do not. Anti-Publicity is compatible with this blocker, using the following principle: a blocking rule takes precedence, that is, if either Internet Explorer or Privacy Control has a blocking rule for a popup window, the window is blocked. For this reason, we recommend configuring the browser and Popup Blocker together if you run Microsoft Windows XP Service Pack 2.

If you want to view a popup window for any reason, you must add it to the trusted address list. To do so:

1. Open the application settings window and select **Firewall** under Protection.
2. Check ☑ Enable Popup Blocker under Popup Blocking and click on Trusted Sites (cf. Figure 46).
3. Click on Add in the resulting Settings: Trusted URLs dialog and enter trusted URL address mask (cf. Figure 56).

   Tip:

   When entering a trusted address mask, you can use the characters ***** or **?**.

   For example, the mask http://www.test* excludes popups from any site that begins with that series of characters.
4. Specify if addresses in the Internet Explorer trusted zone or addresses on your local area network will be excluded from the scan. The program considers them trusted by default and does not block pop-up windows from these addresses.

The new exclusion will be added at the top of the trusted address list. To stop using the exclusion that you have added, just uncheck the box ☑ next to its name. If you want to remove an exclusion entirely, select it on the list and click **Delete**.

If you want to block popups from your intranet or websites included in the Microsoft Internet Explorer list of trusted sites, uncheck the corresponding boxes in the **Trusted sites** section.

When popup windows that are not on the trusted address list try to open, a message appears over the program icon stating that it has blocked the window. There are links in the message that allow you to cancel the block and add the window's address to the trusted address list.

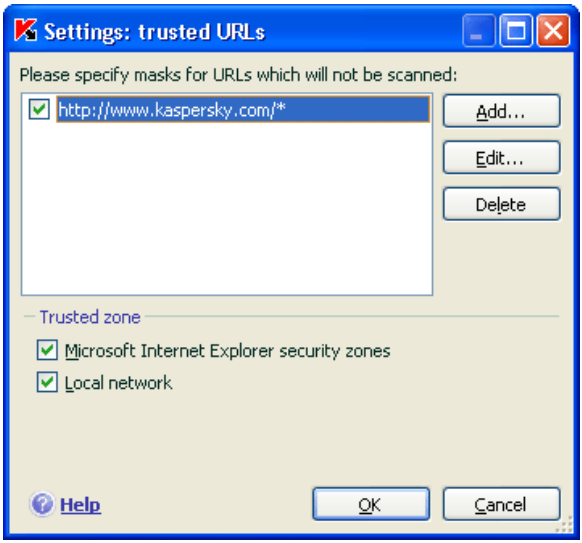


Figure 56. Creating an list of trusted addresses

You can also unblock windows through Internet Explorer if you have Microsoft Windows XP Service Pack 2. To do so, use the context menu that you can open over the program icon that flashes in the bottom corner of the browser when popup windows are blocked.

12.1.4. Anti-Banner

Anti-Banner blocks advertising information located on special banners online or built into interfaces of various programs installed on your computer.

Advertising information on banners is not useful. It is also distracting and serves to increase network traffic. Anti-Banner blocks the most common types of banners known at this time whose descriptions in the form of regular expressions are delivered with Kaspersky Internet Security. Banner blocking may be disabled, and custom lists of allowed and disallowed sites may be created.

To integrate Anti-Banner with the Opera browser, edit section [Image Link Popup Menu] of standard_menu.ini to add the following line:

Item, «New banner» = Copy image address & Execute program, «<drive>\Program Files\Kaspersky Lab\Kaspersky Internet Security 7.0\opera_banner_deny.vbs», «//nologo %C»

A list of regular expressions describing the most common advertising banners has been created by Kaspersky Lab specialists based on a special study and is bundled with the distribution. Advertising banners matching the expressions on the list will be blocked by the application unless banner blocking is disabled.

In addition, white and black banner lists may be created to manage whether banners will be displayed or blocked.

Please note that if a domain mask is included in the disallowed banner list or a black list, access to the web site root is not blocked.

For example, if truehits.net is included in the list of disallowed banners, access to http://truehits.net will be allowed while access to http://truehits.net/a.jpg will be blocked.

12.1.4.1. Configuring the standard banner ad blocking list

Kaspersky Internet Security includes a list of masks for the most common banner ads on websites and program interfaces. This list is compiled by Kaspersky Lab specialists and is updated along with the application databases.

You can select which standard banner ad masks you want to use when using Anti-Banner. To do so:

1. Open the application settings window and select **Firewall** under **Protection**.
2. Check ☑ **Enable Anti-Banner** under **Publicity banners blocking** and click **Settings** (cf. Figure 46).
3. Open the **General** tab in the **Settings: Banners Blocking dialog** (cf. Figure 57)**.** Anti-Banner will block the banner ad masks on the list. You can use wildcards anywhere in a banner address.

The list of standard blocked masks cannot be edited. If you do not want to block a banner covered by a standard mask, uncheck the box ☑ next to the mask.

To analyze banner ads that do not match the masks from the standard list, check ☑ **Use heuristic analysis methods**. Then the application will analyze the images loaded for signs typical of banner ads. Pursuant to this analysis, the image might be identified as a banner and blocked.

You can also create your own lists of allowed and blocked banners. You can do so on the **White list** and **Black list** tabs.

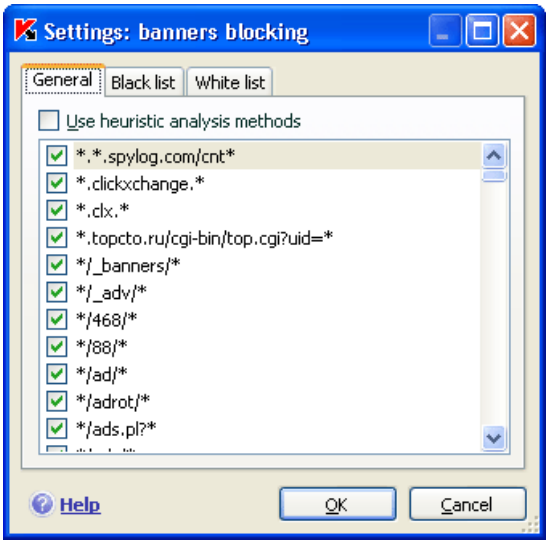


Figure 57. Blocked banner list

12.1.4.2. Banner ad white list

You can create a banner ad white list to allow certain banners to be displayed. This list contains masks for allowed banner ads.

To add to a new mask to the white list:

1. Open the application settings window and select **Firewall** under **Protection**.
2. Check **Enable Anti-Banner** under **Publicity banners blocking** and click **Settings** (cf. Figure 46).
3. Open the **White List** tab in the **Settings: Banners Blocking dialog.**

Add the allowed banner mask using a window accessible by clicking the **Add** button. You can specify the whole URL for the banner or a mask for it. In the latter case, when a banner attempts to load, the program will scan its address for the mask.

When creating a mask, you can use the wildcards ***** or **?** (where * represents a sequence of characters and ? – any one character).

To stop using a mask that you created, you can either delete it from the list, or uncheck the box ☑ next to it. Then banners that fall under this mask will revert to being blocked.

Using the **Import** and **Export** buttons, you can copy the list of allowed banners from one computer to another.

12.1.4.3. Banner ad black list

In addition to the standard list of banners blocked (see 12.1.4.1 on pg. 160) by Anti-Banner, you can create your own list. To do so:

1. Open the application settings window and select **Firewall** under **Protection**.
2. Check ☑ **Enable Anti-Banner** under **Publicity Banners Blocking** and click **Settings** (cf. Figure 46).
3. Open the **Black List** tab in the **Settings: Banners Blocking dialog.**

Using a window accessible by clicking the **Add** button, enter a mask for the banner that you want Anti-Banner to block. You can specify the whole URL for the banner or a mask for it. In the latter case, when a banner attempts to load, the program will scan its address for the mask.

When creating a mask, you can use the wildcards ***** or **?** (where * represents a sequence of characters and ? – any one character).

To stop using a mask that you created, you can either delete it from the list, or uncheck the box ☑ next to it.

Using the **Import** and **Export** buttons, you can copy the list of blocked banners from one computer to another.

12.2. List of network attacks detected

There are currently a multitude of network attacks that utilize operating system vulnerabilities and other software, system or otherwise, installed on your computer. Malefactors are constantly perfecting attack methods, learning how to steal confidential information, making your system malfunction, or take over your computer to use it as part of a zombie network for carrying out new attacks.

To ensure your computer's security, you must know what kinds of network attacks you might encounter. Known network attacks can be divided into three major groups:

- **Port scan** – this threat is not an attack in its own right, but usually precedes one, since it is one of the common ways of obtaining information about a remote computer. The UDP/TCP ports used by the network tools on the computer in question are scanned to find out what state they are in (closed or open).

  Port scans can tell a hacker what types of attacks will work on the system, and what types will not. In addition, the information obtained by the scan will let the hacker determine what operating system the remote computer uses. This in turn further restricts the number of potential attacks, and, correspondingly, the time spent running them. It also aids a hacker in attempting to use vulnerabilities particular to that operating system.

- **DoS (Denial of Service) attacks** – these are attacks that render the attacked system unstable or entirely inoperable. These attacks can damage or corrupt the targeted information resources, and leave them unusable.

  There are two basic types of DoS attacks:

  - Sending the target computer specially created packets that the computer does not expect, which cause the system either to restart or to stop
  - Sending the target computer many packets within a timeframe that the computer cannot process, which exhaust system resources

  The following attacks are common examples of this type of attack:

  - *Ping of death* sends an ICMP packet greater than the maximum of 64 KB. This attack can crash some operating systems.
  - *Land* sends a request to an open port on your computer to establish a connection with itself. This sends the computer into a cycle, which intensifies the load on the processor and can end with some operating systems crashing.
  - *ICMP Flood* sends a large number of ICMP packets to your computer. The attack leads to the computer being forced to reply to each inbound packet, which seriously weighs down the processor.
  - *SYN Flood* sends a large number of queries to your computer to establish a fake connection. The system reserves certain resources for each of those connections, which completely drains your system resources, and the computer stops reacting to other connection attempts.

- **Intrusion attacks**, which aim to take over your computer. This is the most dangerous type of attack, since if it is successful, the hacker has complete control of your computer.

  Hackers use this attack to obtain confidential information from a remote computer (for example, credit card numbers or passwords), or to use its resources later for malicious purposes (e.g. using the captured system in zombie networks or as a platform for new attacks).

  This group contains more different types of attacks than any other. They can be divided into three subgroups based on operating system: Microsoft Windows attacks, Unix attacks, and a group for network services running either operating system.

  The most common types of attacks that use operating system network tools are:

  - *Buffer overflow attacks* – a type of software vulnerability that surfaces due to insufficient control in handling massive amounts of data. This is one of the oldest vulnerability types, and the easiest for hackers to exploit.
  - *Format string attacks* – a type of software vulnerability that arises from insufficient control of input values for I/O functions such as *printf()*, *fprintf()*, *scanf()*, and others from the C standard library. If a program has this vulnerability, a hacker, using queries created with a special technique, can gain complete control of the system.

  The Intrusion Detection System automatically analyzes and blocks attempts to exploit vulnerabilities in the most common network tools (FTP, POP3, IMAP) running on the user's computer.

  Microsoft Windows attacks are based on taking advantage of vulnerabilities in software installed on the computer (for example, programs such as Microsoft SQL Server, Microsoft Internet Explorer, Messenger, and system components that can be accessed through the network – DCom, SMB, Wins, LSASS, IIS5).

  Firewall protects your computer from attacks that use the following known software vulnerabilities (this list of vulnerabilities is cited with the Microsoft Knowledge Base numbering system):

  (**MS03-026**) DCOM RPC Vulnerability(Lovesan worm)

  (**MS03-043**) Microsoft Messenger Service Buffer Overrun

  (**MS03-051**) Microsoft Frontpage 2000 Server Extensions Buffer Overflow

  (**MS04-007**) Microsoft Windows ASN.1 Vulnerability

  (**MS04-031**) Microsoft NetDDE Service Unauthenticated Remote Buffer Overflow

  (**MS04-032**) Microsoft Windows XP Metafile (.emf) Heap Overflow

(**MS05-011**) Microsoft Windows SMB Client Transaction Response Handling

(**MS05-017**) Microsoft Windows Message Queuing Buffer Overflow Vulnerability

(**MS05-039**) Microsoft Windows Plug-and-Play Service Remote Overflow

(**MS04-045**) Microsoft Windows Internet Naming Service (WINS) Remote Heap Overflow

(**MS05-051**) Microsoft Windows Distributed Transaction Coordinator Memory Modification

In addition, there are isolated incidents of intrusion attacks using various malicious scripts, including scripts processed by Microsoft Internet Explorer and Helkern-type worms. The essence of this attack type consists of sending a special type of UDP packets to a remote computer that can execute malicious code.

Remember that, while connected to the network, your computer is at constant risk of being attacked by a hacker. To ensure your computer's security, be sure to enable Firewall when using the Internet and regularly update application databases (see 17.3.2 on pg. 227).

12.3. Blocking and allowing network activity

If the security level for the Firewall is set to **Training Mode**, a special notice appears on screen each time a network connection is attempted that has no rule.

For example, after opening Microsoft Office Outlook, it downloads your email from a remote Exchange server. To display your Inbox, the program connects to the email server. Firewall always tracks this kind of network activity. A message will appear on the screen (see Figure 58) containing:

- *Description of activity* – name of the application and a brief description of the connection that it is initiating, generally including the connection type, the local port from which it is being initiated, the remote port, and the address being connected to. Left click anywhere in the area to obtain detailed information on the connection, its initiating process, and the application distributor.
- *Action* – series of operations that Firewall will perform regarding the network activity detected.

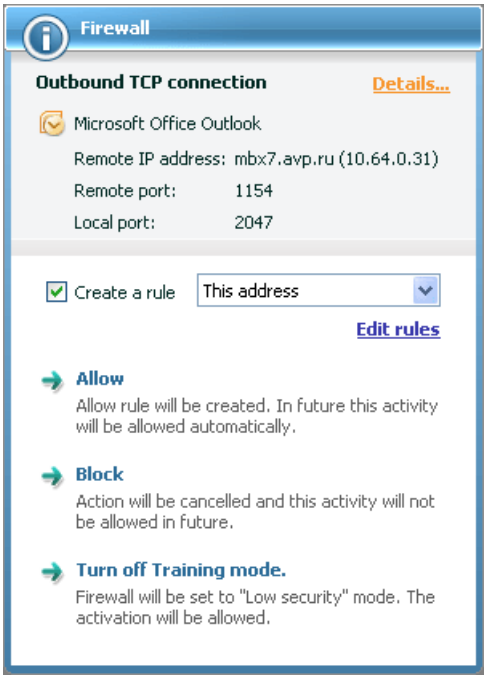

Firewall
Outbound TCP connection
Details...
Microsoft Office Outlook
Remote IP address: mbx7.avp.ru (10.64.0.31)
Remote port: 1154
Local port: 2047
Create a rule
This address
Edit rules
Allow
Allow rule will be created. In future this activity will be allowed automatically.
Block
Action will be cancelled and this activity will not be allowed in future.
Turn off Training mode.
Firewall will be set to "Low security" mode. The activation will be allowed.

Figure 58. Network activity notification

Carefully review the information on network activity and only then select actions for Firewall. We recommend that you use these tips when making a decision:

1. Before doing anything else, decide whether to allow or block the network activity. It is possible that in this situation a set of rules already created for this application or packet will help you (assuming that such have been created). To do so, use the Edit rules link. Then a window will open with a complete list of rules created for the application or data packet.
2. Decide whether to perform this action once or automatically every time this activity is detected.

To perform the action this time only:

uncheck ☑ **Create a rule** and click the button with the name of the action: **Allow** or **Block**.

To perform the action you select automatically every time this activity is initiated on your computer:

1. Verify that ☑ **Create a rule** is checked.

2. Select the type of activity that you want the action to apply to from the dropdown list:

   - **All activity** – any network activity initiated by this application.
   - **Custom** – specific activity that you will have to define in a create rule window (see 12.1.1.2.1, p. 145).
   - **<Template>** – name of the template that includes the set of rules typical of the program's network activity. This activity type appears on the list if Kaspersky Internet Security includes an appropriate template for the application that initiated the network activity (see 12.1.1.2.2 on pg. 145). In such a case, you will not have to customize what activity to allow or block. Use the template and a set of rules for the application will be created automatically.

3. Click the button with the name of the action (**Allow** or **Block**).

Remember that the rule created will be used only when all of the connection parameters match it. This rule will not apply to a connection established from a different local port, for example.

To deactivate Firewall messages displayed for any application attempting to establish a network connection, click Disable Training Mode. This will place Firewall in the Allow All mode which allows all network connections except for those explicitly disallowed by rules.

CHAPTER 13. SPAM PROTECTION

The Kaspersky Internet Security 7.0 component which detects spam, processes it according to a set of rules, and saves you time when using email, is called *Anti-Spam*.

Anti-Spam uses the following method to determine whether an email is spam:

1. The sender's address is scanned for matches on black and white lists of addresses.
   - If the sender's address is on the white list, the email is marked as *accepted*.
   - If the sender's address is on the black list, the email is marked as *spam*. Further processing depends on the action you select (see 13.3.7 on pg. 185).
2. If the sender's address is not found on the white or black list, the email is analyzed using PDB technology (see 13.3.2 on pg. 176).
3. Anti-Spam examines the text of the email in detail and scans it for lines from the black or white list.
   - If the text of the email contains lines from the white list of lines, the email is marked as *accepted*.
   - If phrases from the phrase black list are encountered, the email is marked as *spam*. Further processing depends on the action you specify.
4. If the email does not contain phrases from the black or white list, it is analyzed for phishing. If the text of the email contains an address contained in the anti-phishing database, the email is marked as *spam*. Further processing depends on the action you specify.
5. If the email does not contain phishing lines, it is scanned for spam using special technologies:
   - Image analysis using GSG technology
   - Message text analysis using the iBayesian algorithm for spam recognition
6. Finally the email is scanned for advanced spam filtration factors (see 13.3.5 on pg. 183) specified by the user when Anti-Spam was

installed. This could include scanning for correctness of HTML tags, font size, or hidden characters.

You can enable or disable each of these stages of the analysis.

Anti-Spam exists as a plug-in for the following email clients:

- Microsoft Office Outlook (see 13.3.8 on pg. 186)
- Microsoft Outlook Express (Windows Mail) (see 13.3.9 on pg. 189)
- The Bat! (see 13.3.10 on pg. 190)

This option is only supported for the 32-bit builds of Microsoft Office Outlook and The Bat! for computers running Microsoft Windows XP Professional x64 Edition and Microsoft Windows Vista x64.

The task panel for Microsoft Office Outlook and Microsoft Outlook Express (Windows Mail) clients has two buttons, **Spam** and **Not Spam**, which can configure Anti-Spam to detect spam right in your mailbox. In The Bat! there are no such buttons: instead the program can be trained using the special items **Mark as spam** and **Mark as NOT spam** on the **Special** menu. In addition, special processing parameters (see 13.3.1 on pg. 175) for spam are added to all the settings of the email client.

Anti-Spam uses special self-training iBayes algorithm, which allows the component over time to more accurately distinguish between *spam* and *accepted email*. The data source for the algorithm is email contents.

Situations arise when iBayes is unable to classify a certain email as either spam or accepted email to a high degree of accuracy. These emails are marked as *potential spam*.

In order to reduce the number of emails marked as potential spam, you are advised to conduct additional Anti-Spam training (cf. Section 13.2, p. 195) on such emails. To do so, you must specify which of those emails should be marked as *spam*, and which as *accepted*.

Emails that are *spam* or *potential spam* are modified: the markings **[!! SPAM]** or **[?? Probable Spam]**, are added to the subject line.

The rules for processing spam or potential spam emails for Microsoft Office Outlook, Microsoft Outlook Express (Windows Mail), or The Bat! are specified in special plug-in components within the email client itself. For other email clients, you can configure filtration rules that search for the modified subject line containing **[!! SPAM]** or **[?? Probable Spam]** and move the email to a designated folder. For more information about the filtration mechanism, please consult the documentation for your email client.

13.1. Selecting an Anti-Spam sensitivity level

Kaspersky Internet Security protects you from spam at one of the following levels (see Figure 59):

Block all – strictest level of sensitivity, at which only messages containing phrases from the phrase white list (see 13.3.4.1 on pg. 179) and senders listed on the white list are accepted: everything else is marked as spam. At this level, email is only analyzed against the white lists. All other features all disabled.

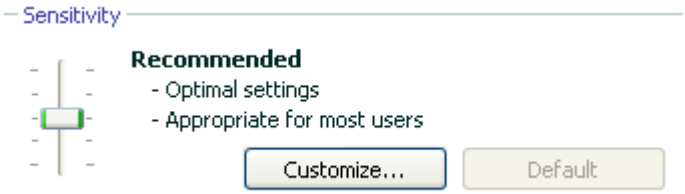


Figure 59. Selecting the Anti-Spam security level

High – a strict level that when activated raises the likelihood that some emails that are not spam will be marked as *spam*. At this level, email is analyzed against the white and black list, and also using PDB and GSG technologies, as well as iBayes (see 13.3.2 on pg. 176).

This level should be applied in cases when there is a high likelihood that the recipient's address is unknown to spammers. For example, when the recipient is not signed to mass mailings, and does not have an email address on free/non-corporate email servers.

Recommended – the standard universal settings level for classifying email.

At this level, it is possible that some spam will not be detected. This shows that Anti-Spam is not trained well enough. You are advised to conduct additional training for the module using the Training Wizard (see 13.2.1 on pg. 172) or the **Spam**/**NOT Spam** buttons (or corresponding menu items in The Bat!) for emails that were incorrectly marked.

Low – the most loyal settings level. It is recommended for users whose incoming correspondence contains a significant number of words recognized by Anti-Spam as spam, but is not spam. This may be because of the recipient's professional activity, which forces him to use professional terms in his correspondence with colleagues that are widespread in spam. All spam detection technologies are used to analyze emails at this level.

Allow all – lowest sensitivity level. Only email that contains phrases from the phrase black list, or senders listed on the address black list, are marked as spam. At this level, email is only processed using the black list, and all other features all disabled.

By default, Anti-Spam is set to the **Recommended** sensitivity level. You can boost or reduce the level or edit the settings for the current level.

To modify the level of sensitivity:

In the Sensitivity section, move the slider up or down to the required setting. By adjusting the sensitivity level, you define the correlation between spam, potential spam, and accepted email factors (see 13.3.3 on pg. 177).

To modify the settings for the current sensitivity level:

1. Open the application settings window and select **Anti-Spam** under **Protection**.
2. Click on **Customize** under **Sensitivity** (cf. Figure 59).
3. Edit spam protection parameters in the resulting window and click **OK**.

   As a result, the sensitivity level will be user customized.

13.2. Training Anti-Spam

Anti-Spam comes with a pre-installed email database containing fifty spam samples. You are advised to give the Anti-Spam module further training on your own emails.

There are several approaches to training Anti-Spam:

- Use the Training Wizard (see 13.2.1 on pg. 172)
- Train Anti-Spam with outgoing emails (see 13.2.2 on pg. 172)
- Train directly while working with email (see 13.2.3 on pg. 173), using special buttons in the email client tools panel or menu items
- Training in Anti-Spam reports (see 13.2.4 on pg. 174)

The best method is to use the Training Wizard from the very onset of using Anti-Spam, as it can train Anti-Spam on a large number of emails.

Note that you cannot train Anti-Spam with more than 50 emails per folder. If there are more emails in the folder, the program will use fifty for training.

Additional training, using special buttons in the email client interface, are preferable when working directly with email.

13.2.1. Training Wizard

The Training Wizard trains Anti-Spam by indicating which mailbox folders contain spam and which contain accepted email.

To open the Training Wizard:

Select the **Anti-Spam** component under **Protection** in the left pane of the application main window and click on **Start Training Wizard**.

The application settings window may also be used to start Anti-Spam training. Select the **Anti-Spam** component under **Protection** and click on **Training Wizard** in the **Training** area.

Training Wizard includes step-by-step procedures for training Anti-Spam. Use the **Back** and **Next** buttons to navigate between steps.

Step One of the Training Wizard involves selecting folders that contain accepted email. At this stage, you must only select the folders whose contents you fully trust.

Step Two of the Training Wizard consists of selecting folders that contain spam.

Skip this step if your mail client does not have spam folders.

In Step Three, Anti-Spam is automatically trained on the folders you selected. The emails in those folders populate the Anti-Spam database. The senders of accepted email are automatically added to the address white list.

In Step Four, the results of training must be saved using one of the following methods: add the results of training to the Anti-Spam database or replace the current database with the database created by training. Please bear in mind that the program must be trained on at least 50 accepted emails and 50 junk emails for iBayes to work accurately.

To save time, the Training Wizard only trains on 50 emails in each selected folder.

13.2.2. Training with outgoing emails

You can train Anti-Spam with outgoing emails from your email client. Then the Anti-Spam address white list will be filled by analyzing outgoing messages. Only the first fifty emails are used for training, at which point, training is complete.

To train Anti-Spam with outgoing emails:

1. Open the application settings window and select **Anti-Spam** under **Protection**.
2. Check **Train using outgoing email messages** in the **Training** section.

Warning!

Anti-Spam will only train itself with outgoing emails sent via MAPI protocol if you check **Scan when sending** in the Microsoft Office Outlook Mail Anti-Virus plug-in (see 13.3.8 on pg. 186).

13.2.3. Training using your email client

To training while using your mailbox, you use special buttons on your email client's tools panel.

When you install Anti-Spam on your computer, it installs plug-ins for the following email clients:

- Microsoft Office Outlook
- Microsoft Outlook Express (Windows Mail)
- The Bat!

For example, the task panel of Microsoft Office Outlook has two buttons, **Spam** and **Not Spam,** and a **Kaspersky Anti-Spam** tab of settings (see 13.3.8 on pg. 186) in the **Options** dialog box (menu item **Tools→ Options**). Microsoft Outlook Express (Windows Mail), in addition to the **Spam** and **Not Spam** buttons, adds a **Configure** button to the task panel that opens a window with actions (see 13.3.9 on pg. 189) when spam is detected. In The Bat! there are no such buttons, although the program can be trained using the special items **Mark as spam** and **Mark as NOT spam** on the **Special** menu.

If you decide that the currently open email is spam, click the **Spam** button. If the email is not spam, click **Not Spam**. After this, Anti-Spam will be training itself using the email. If you select several emails, all of them will be used for training.

Warning!

In cases when you need to immediately select several emails, or are certain that a certain folder only contains emails of one group (spam or not spam), you can take a multi-faceted approach to training using the Training Wizard (see 13.2.1 on pg. 172).

13.2.4. Training using Anti-Spam reports

You have the option of training Anti-Spam through its reports.

To view Anti-Spam reports:

1. Select **Anti-Spam** in the **Protection** section of the main program window.
2. Click Open report.

The component's reports can help you make a conclusion about the accuracy of its configuration, and, if necessary, make certain corrections to Anti-Spam.

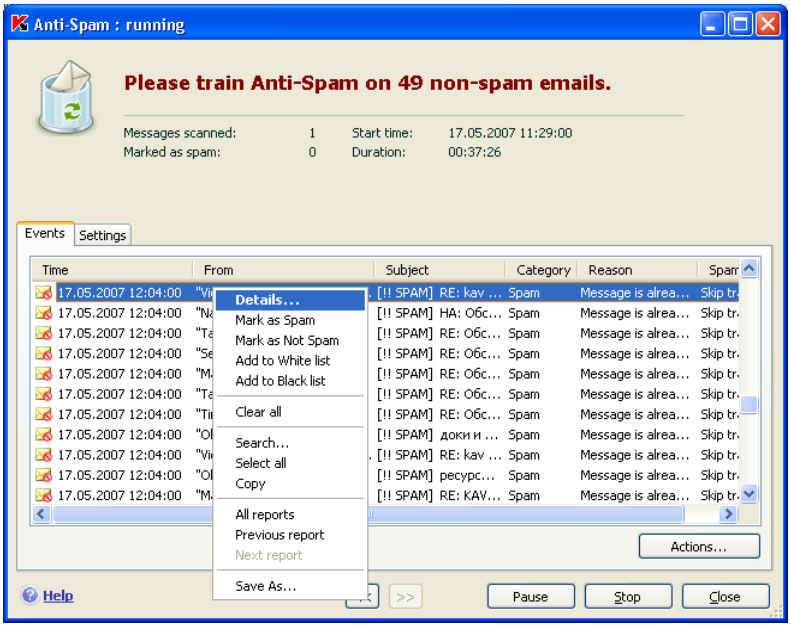


Figure 60. Training Anti-Spam from reports

To mark a certain email as spam or not spam:

1. Select it from the report list on the **Events** tab, and use the **Actions** button.
2. Select one of the four options:
   - **Mark as spam**
   - **Mark as accepted**

- **Add to white list**
- **Add to black list**

Anti-Spam will continue further training based on this email.

13.3. Configuring Anti-Spam

Fine-tuning Anti-Spam is essential for the spam security feature. All settings for component operation are located in the Kaspersky Internet Security settings window and allow you to:

- Determine the particulars of operation of Anti-Spam (see 13.3.1 on pg. 175)
- Choose which spam filtration technologies to use (see 13.3.2 on pg. 176)
- Regulate the recognition accuracy of spam and potential spam (see 13.3.3 on pg. 177)
- Create white and black lists for senders and key phrases (see 13.3.4 on pg. 178)
- Configure additional spam filtration features (see 13.3.5 on pg. 183)
- Maximally reduce the amount of spam in your Inbox through previewing with the Email Dispatcher (see 13.3.6 on pg. 184)

The following sections will examine these settings in detail.

13.3.1. Configuring scan settings

You can configure the following scan settings:

- Whether traffic from POP3/IMAP protocols are scanned. By default, Kaspersky Internet Security scans email on all these protocols.
- Whether plug-ins are activated for Microsoft Office Outlook and The Bat!
- Whether email is viewed via POP3 in the Email Dispatcher (see 13.3.6 on pg. 184) prior to downloading it from the email server to the user's Inbox.

To configure these settings:

1. Open the application settings window and select **Anti-Spam** under **Protection**.

2. Check or uncheck the boxes in the **Connectivity** section which correspond to the three options discussed immediately above (see Figure 61).
3. Edit the network settings, if necessary.

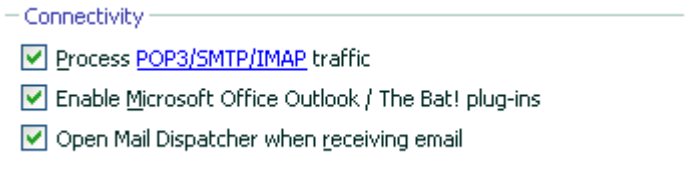

Connectivity
Process POP3/SMTP/IMAP traffic
Enable Microsoft Office Outlook / The Bat! plug-ins
Open Mail Dispatcher when receiving email

Figure 61. Configuring scan settings

13.3.2. Selecting spam filtration technologies

Emails are scanned for spam using state-of-the-art filtration technologies:

- **iBayes**, based on the Bayes theorem, analyzes email text to detect phrases that mark it as spam. The analysis uses the statistics obtained by training Anti-Spam (see 13.2 on pg. 171).
- **GSG**, which analyzes graphic elements in emails using special graphic signatures to detect spam in graphics.
- **PDB**, which analyzes email headers and classifies them as spam based on a set of heuristic rules.

By default, all of these filtration technologies are enabled, checking email for spam as completely as possible.

To disable any of these filtration technologies:

1. Open the application settings window and select **Anti-Spam** under **Protection**.
2. Click on the **Customize** button in the **Sensitivity** section, and in the window that opens select the **Spam recognition** tab (see Figure 62).

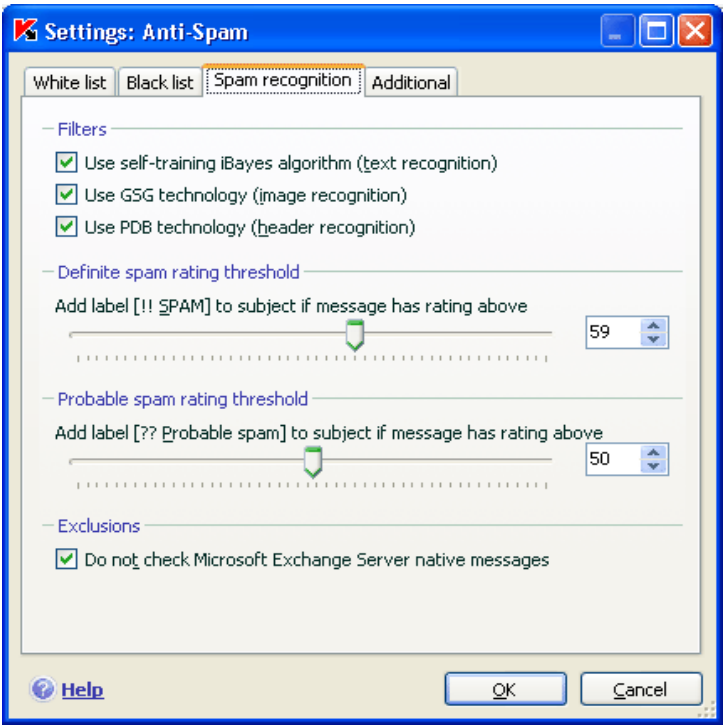


Figure 62. Configuring spam recognition

3. Uncheck the boxes next to the filtration technologies that you do not want to use for detecting spam.

13.3.3. Defining spam and potential spam factors

Kaspersky Lab specialists have optimally configured Anti-Spam to recognize spam and probable spam.

Spam detection operates on state-of-the-art filtration technologies (see 13.3.2 on pg. 176), and on training Anti-Spam to recognize spam, potential spam, and accepted email accurately using emails from your Inbox.

Anti-Spam is trained using the Training Wizard, and through email client programs. During training, every individual element of accepted emails or spam is assigned a factor. When an email enters your inbox, Anti-Spam scans the

email with iBayes for elements of spam and of accepted email. The factors for each element are totaled and the email is given a *spam factor* and an *accepted email factor.*

The probable spam factor defines the likelihood that the email will be classified as probable spam. If you are using the **Recommended** level, any email has between a 50% and 59% chance of being considered *probable spam*. Email that, after being scanned, has a likelihood of less than 50% will be considered accepted email.

The spam factor determines the likelihood that Anti-Spam will classify an email as spam. Any email with chances beyond that indicated above will be perceived as spam. The default spam factor is 59% for the **Recommended** level. This means that any email with a likelihood of more than 59% will be marked as *spam*.

In all, there are five sensitivity levels (see 13.1 on pg. 170), three of which (**High, Recommended**, and **Low**) are based on various spam and probable spam factor values.

You can edit the Anti-Spam algorithm on your own. To do so:

1. Open the application settings window and select **Anti-Spam** under **Protection**.
2. Click on **Customize** under **Sensitivity** and open the **Spam Recognition** tab in the resulting dialog (cf. Figure 62).
3. Adjust spam and potential spam ratings in the relevant areas.

13.3.4. Creating white and black lists manually

Users can create black and white lists manually, by using Anti-Spam with their email. These lists store information on user addresses that are considered safe or spam sources, and various key words and phrases that identify them as spam or accepted email.

The chief application of the lists of key phrases, and in particular the white list, is that you can coordinate with trusted addressees, (for example, with colleagues), signatures containing a particular phrase. You could use, for example, a PGP signature as an email signature. You can use wildcards in the signatures and in the addresses: ***** and **?**. A * represents any sequence of characters of any length. A question mark represents any one character.

If there are asterisks and questions marks in the signature, to prevent errors with Anti-Spam processes them, they should be preceded by a backslash. Then two characters are used instead of one: ***** and **?**.

13.3.4.1. White lists for addresses and strings

The white list contains key phrases from emails that you marked as *accepted*, and addresses of trusted senders who would not send spam. The white list is filled manually, and the list of senders' addresses is done automatically while training the Anti-Spam component. You can edit this list.

To configure the white list:

1. Open the settings window and select **Anti-Spam** under **Protection**.
2. Click on **Customize** under **Sensitivity** and open the **White List** tab (cf. Figure 63).

The tab is divided into two sections: the upper portion contains the addresses of senders of good email, and the lower contains key phrases from such emails.

To enable phrase and address white lists during spam filtration, check the corresponding boxes in the **Allowed senders** and **Allowed phrases** sections.

You can edit the lists using the buttons in each section.

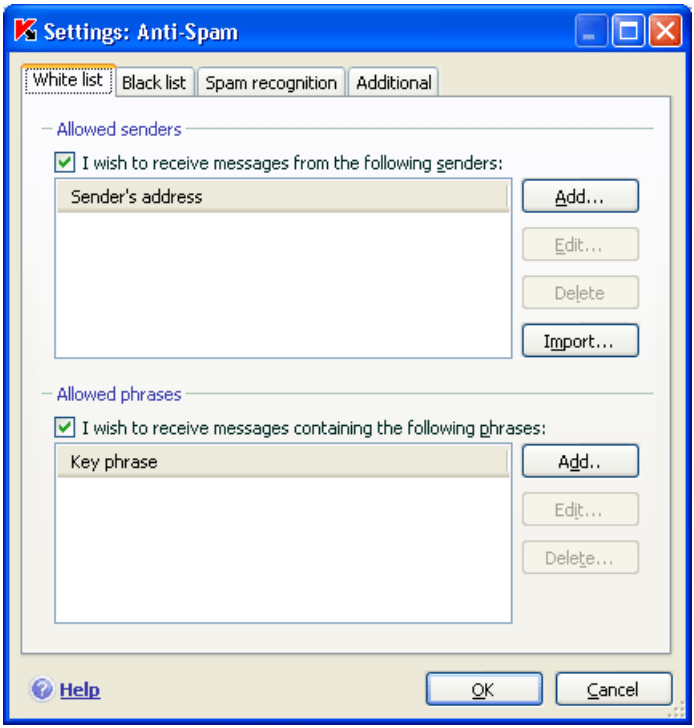


Figure 63. Configuring address and phrase white lists

You can assign both addresses and address masks in the address list. When entering an address, the use of capitals is ignored. Let's look at some examples of address masks:

- *ivanov@test.ru* – emails from this address will always be classified as accepted;
- **@test.ru* – email from any sender in the domain *test.ru* is accepted, for example: *petrov@test.ru*, *sidorov@test.ru*;
- *ivanov@** – a sender with this name, regardless of the email domain, always sends only accepted email, for example: *ivanov@test.ru*, *ivanov@mail.ru*;
- **@test** – email from any sender in a domain that begins with *test* is not spam, for example: *ivanov@test.ru*, *petrov@test.com*;
- *ivan.*@test.???* – email from a sender whose name begins with ivan. and whose domain name begins with *test* and ends in any three characters is

always accepted, for example: *ivan.ivanov@test.com*, *ivan.petrov@test.org*.

You can also use masks for phrases. When entering a phrase, the use of capitals is ignored. Here are some examples of some of them:

- *Hi, Ivan!* – an email that only contains this text is accepted. It is not recommended to use such a phrase as a white list phrase;
- *Hi, Ivan!** – an email beginning with the phrase *Hi, Ivan!* is accepted;
- *Hi, *! ** – emails beginning with the greeting *Hi* and an exclamation point anywhere in the email will not to be treated as spam;
- * *Ivan?* * – the email contains a greeting to a user with the name *Ivan*, whose name is followed by any character, and is not spam;
- * *Ivan**? ** – emails containing the phrase *Ivan?* are accepted.

To disable the use of a certain address or phrase as attributes of good email, it can be deleted using the **Delete** button, or the box alongside the text can be unchecked to disable them.

You have the option of importing CSV-formatted files for white list addresses.

13.3.4.2. Black lists for addresses and strings

The sender black list stores key phrases from emails that constitute *spam*, and the addresses of their senders. The list is filled manually.

To fill the black list:

1. Open the application settings window and select **Anti-Spam** under **Protection**.
2. Click on **Customize** under **Sensitivity** and open the **Black List** tab (cf. Figure 64).

The tab is divided into two sections: the upper portion contains the addresses of spam senders, and the lower contains key phrases from such emails.

To enable phrase and address black lists during spam filtration, check the corresponding boxes in the **Blocked senders** and **Blocked phrases** sections.

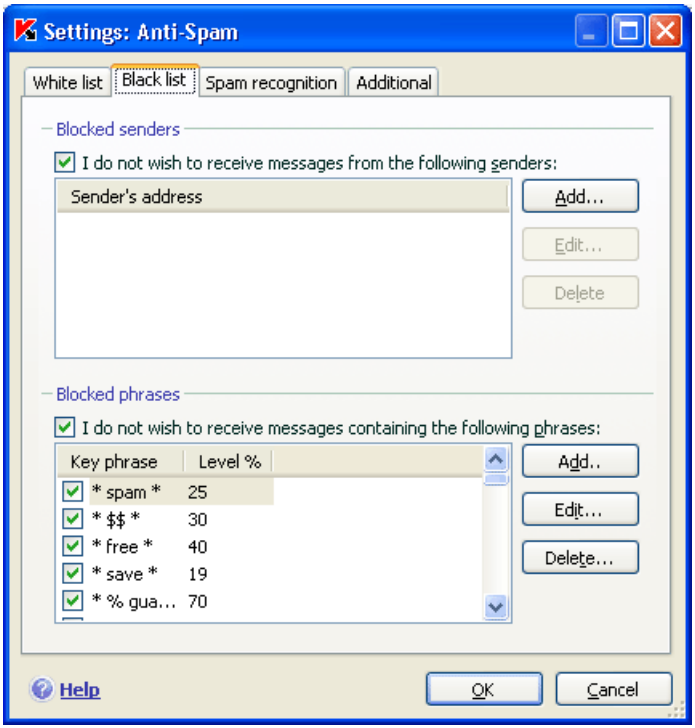


Figure 64. Configuring address and phrase black lists

You can edit the lists using the buttons in each section.

You can assign both addresses and address masks as the address list. When you enter an address, the use of capitals is ignored. Address masks can be used exactly as for the white list in the previous section.

You can also use masks for phrases. When entering a phrase, the use of capitals is ignored. Phrase masks can also be used, exactly as for the white list in the previous section.

To disable the use of a certain address or phrase as attributes of spam, it can be deleted using the **Delete** button, or the box alongside the text can be unchecked to disable them.

13.3.5. Additional spam filtration features

In addition to the main features that are used to filter spam (creating white and black lists, phishing analysis, filtration technologies), Kaspersky Internet Security provides you with advanced features.

To configure advanced spam filtration features:

1. Open the application settings window and select **Anti-Spam** under **Protection**.
2. Click on **Customize** under **Sensitivity** and open the **Additional** tab (cf. Figure 65).

The tab lists a series of indicators that will classify email as being, more likely than not, spam.

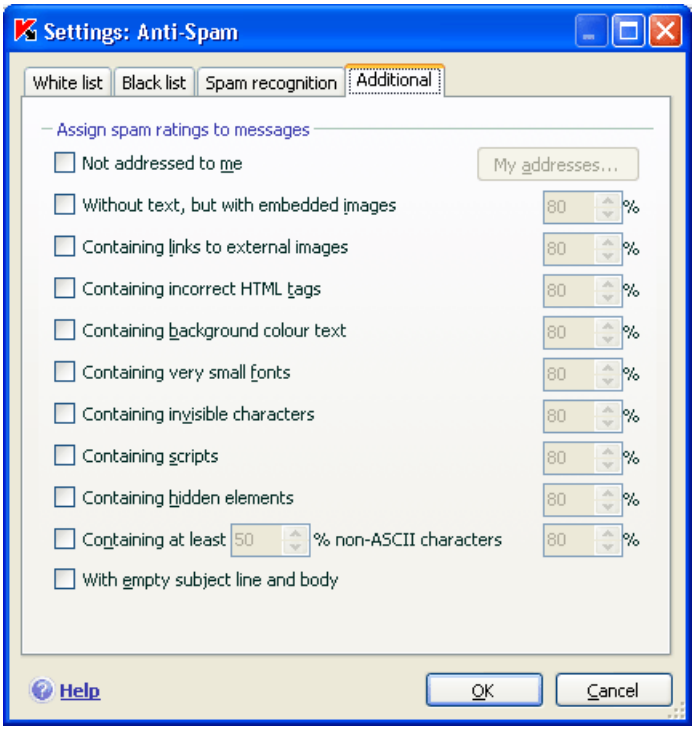


Figure 65. Advanced spam recognition settings

To use an additional filtration indicator, check the flag beside it. Each of the factors also requires that you set a spam factor (in percentage points) that

defines the likelihood that an email will be classified as spam. The default value for the spam factor is 80%. The email will be marked as spam if the sum of the likelihoods for all additional factors exceeds 100%.

Spam could be empty e-mails (no subject or body), e-mails containing links to images or with imbedded images, with text that matches the background color, or text in a very small font size. Spam can also be e-mails with invisible characters (the text matches the background color), e-mails containing hidden elements (the elements are not displayed at all), or incorrect html tags, as well as e-mails containing scripts (a series of instructions executed when the user opens the e-mail).

If you enable filtration for “messages not addressed to me,” you must specify your trusted addresses in the window that opens by clicking **My addresses**. The recipient’s address will be checked during the scan. If it does not match any of the addresses on your list, the message will be classified as *spam*.

An address list may be created and edited in the **My Email Addresses** window by clicking **Add**, **Edit,** or **Delete**.

To exclude e-mails forwarded within the intranet (for example, corporate e-mail) from the spam scan, check **Do not check Microsoft Exchange Server native messages** mail. Note that e-mails will be considered internal mail if all the computers on the network use Microsoft Office Outlook as their mail client, and if the user e-mail boxes are located on one Exchange server, or these servers must be connected with X400 connectors. For Anti-Spam to analyze these e-mails, deselect the checkbox.

13.3.6. Mail Dispatcher

Warning!

Mail Dispatcher is only available if you receive email via POP3 protocol.

Mail Dispatcher is designed for viewing the list of email messages on the server without downloading them to your computer. This enables you to refuse to accept messages, saving time and money when working with email and reducing the likelihood of downloading spam and viruses to your computer.

Mail Dispatcher opens if **Open Mail Dispatcher when receiving email** is checked in the **Anti-Spam** configuration dialog.

To delete emails from the server without downloading them onto your computer:

check the boxes on the left of the emails that you want to delete, and click the **Delete** button. The emails checked with be deleted from the server. The rest of your email will be downloaded to your computer after you close the Mail Dispatcher window.

Sometimes it can be difficult to decide whether to accept a certain email, judging only by the sender and the email's subject line. In such cases, Mail Dispatcher gives you more information by downloading the email's headers.

To view email headers:

select the email from the list of incoming email. The email's headers will be displayed in the lower part of the form.

Email headers are not of a significant size, generally a few dozen bytes, and cannot contain malicious code.

Here is an example of when it might help to view an email's headers: spammers have installed a malicious program on a coworker's computer that sends spam with his name on it, to everyone on his email client's contact list. The likelihood that you are on your coworker's contact list is extremely high, and undoubtedly your inbox will become full of spam from him. It is impossible to tell, judging by the sender's address alone, whether the email was sent by your coworker or a spammer. The email headers will however reveal this information, allowing you to check who sent the email, when, and what size it is, and to trace the email's path from the sender to your email server. All this information should be in the email headers. You can then decide whether it is really necessary to download that email from the server, or if it is better to delete it.

Note:

You can sort emails by any of the columns of the email list. To sort, click on the column heading. The rows will be sorted in ascending order. To change the sorting direction, click on the column heading again.

13.3.7. Actions for spam

If after scanning you find that an email is spam or potential spam, the next steps that Anti-Spam takes depend on the object status and the action selected. By default, emails that are *spam* or *potential spam* are modified: the markings **[!! SPAM]** or **[?? Probable Spam]** are added to the subject line.

You can select additional actions for spam or potential spam. In Microsoft Office Outlook, Microsoft Outlook Express (Windows Mail) and The Bat! special plug-ins are provided to do so. For other email clients, you can configure the filtration rules.

13.3.8. Configuring spam processing in Microsoft Office Outlook

This option is only supported for the 32-bit build of Microsoft Office Outlook for computers running Microsoft Windows XP Professional x64 Edition and Microsoft Windows Vista x64.

Email that is classified by Anti-Spam as *spam* or *potential spam* is by default marked with special markings **[!! SPAM]** or **[?? Probable Spam]** in the **Subject** line.

Additional actions for spam and potential spam in Microsoft Office Outlook can be found on the special **Kaspersky Anti-Spam** tab on the **Tools→ Options** menu (see Figure 66).

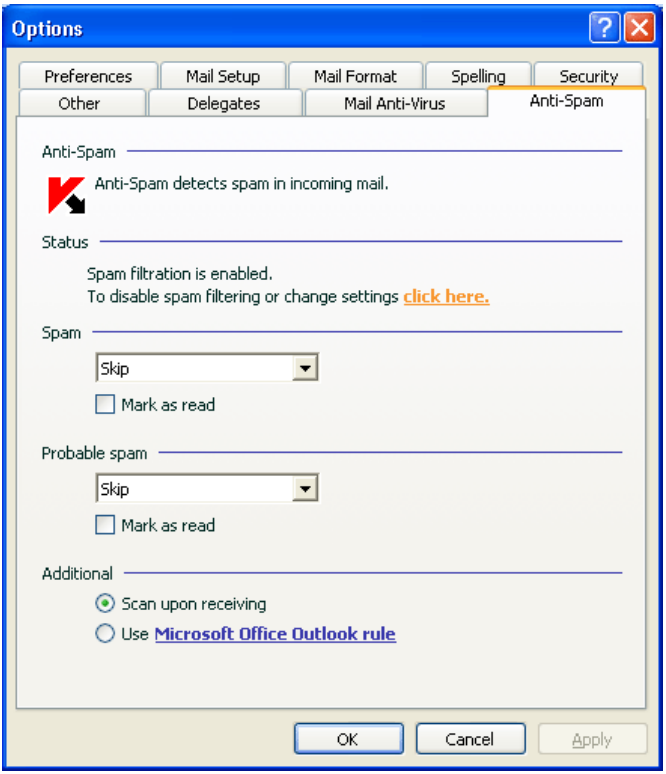


Figure 66. Configuring spam processing in Microsoft Office Outlook

It opens automatically when the email client is first opened after installing the program and asks if you to configure spam processing.

You can assign the following processing rules for both spam and potential spam:

Move to folder – spam is moved to the specified folder.

Copy to folder – a copy is created of the email and it is moved to the specified folder. The original email stays in your Inbox.

Delete – deletes spam from the user's mailbox.

Skip – leaves the email in your Inbox.

To do so, select the appropriate value from the dropdown list in the **Spam** or **Probable Spam** section.

You can also configure Microsoft Office Outlook and Anti-Spam to work together:

- **Scan upon receiving**. All emails that enter the user's inbox are initially processed according to the Outlook rules. After processing is complete, the Anti-Spam plug-in processes the remaining messages that do not fall under any of the rules. In other words, emails are processed according to the priority of the rules. Sometimes the priority sequence may be ignored, if, for example, a large number of emails arrive in your Inbox at the same time. In such a case, situations could arise when information about an email processed by the Microsoft Office Outlook rule is logged in the Anti-Spam report as *spam*. To avoid this, we recommend configuring the Anti-Spam plug-in as the Microsoft Office Outlook rule.
- **Use Microsoft Office Outlook rule**. With this option, incoming messages are processed based on a hierarchy of the Microsoft Office Outlook rules created. One of the rules must be a rule about Anti-Spam processing emails. This is the best configuration. It will not cause conflicts between Microsoft Office Outlook and the Anti-Spam plug-in. The only drawback to this arrangement is that you must create and delete spam processing rules through Microsoft Office Outlook manually.

To create a spam processing rule:

1. Open Microsoft Office Outlook and go to **Tools** →**Rules and Alerts** in the main menu. The command for opening the Wizard depends on your version of Microsoft Office Outlook. This User Guide describes how to create a rule using Microsoft Office Outlook 2003.
2. In the **Rules and Alerts** windows that opens, click **New Rule** on the **E-mail Rules** tab to open the Rules Wizard. The **Rules Wizard** will guide you through the following windows and steps:

   Step One

You can choose to create a rule from scratch or from a template. Select **Start from a blank rule** and select **Check messages when they arrive**. Click the **Next** button.

Step Two

In the **Rule Conditions** window, click **Next** without checking any boxes. Confirm in the dialog box that you want to apply this rule to all emails received.

Step Three

In the window for selecting actions to apply to messages, check **perform a custom action** from action list. In the lower portion of the window click custom action. In the window that opens, select **Kaspersky Anti-Spam** from the dropdown menu and click **OK**.

Step Four

In the window for selecting exceptions to the rule, click **Next** without checking any boxes.

Step Five

In the window for finishing creating the rule, you can edit its name (the default is **Kaspersky Anti-Spam**). Make sure that **Turn on this rule** is checked and click **Finish**.

3. The default position for the new rule is first on the rule list in the **E-mail Rules** window. If you like, move this rule to the end of the list so it is applied to the email last.

All incoming emails are processed with these rules. The order in which the rules are applied depends on their priority, with rules at the top of the list having higher priority than those lower down. You can change the priority for applying rules to emails.

If you do not want the Anti-Spam rule to further process emails after a rule is applied, you must check **Stop processing more rules** in the rule settings (see Step Three in creating the rule).

If you are experienced in creating email processing rules in Microsoft Office Outlook, you can create your own rule for Anti-Spam based on the setup that we have suggested.

13.3.9. Configuring spam processing in Microsoft Outlook Express (Windows Mail)

Email that is classified by Anti-Spam as *spam* or *potential spam* is by default marked with special markings **[!! SPAM]** or **[?? Probable Spam]** in the **Subject** line.

Additional actions for spam and potential spam in Microsoft Outlook Express (Windows Mail) can be found in the settings window that opens (see Figure 67) when you click the **Configuration** button near the **Spam** and **Not Spam** buttons on the tasks panel.

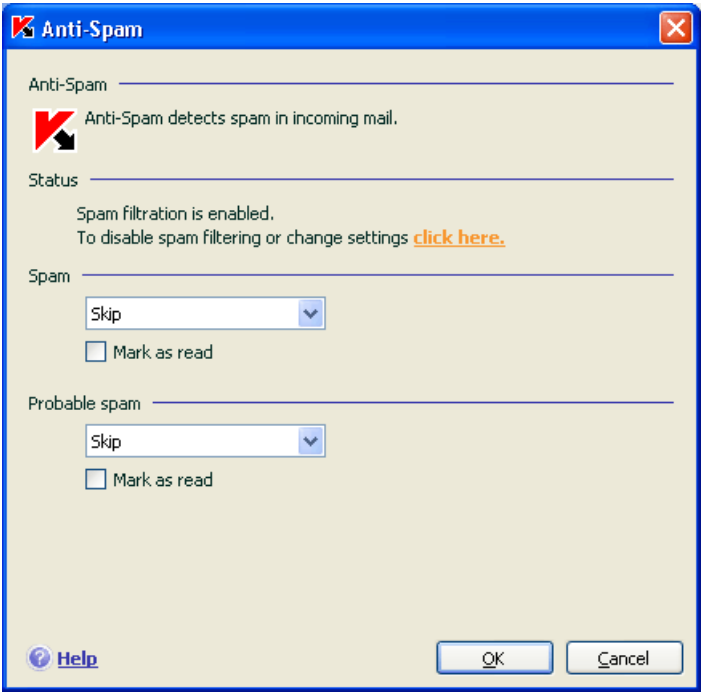


Figure 67. Configuring spam processing in Microsoft Outlook Express

It opens automatically when you first open the email client after installing the program, and asks if you want to configure spam processing.

You can assign the following processing rules for both spam and potential spam:

Move to folder – spam is moved to the specified folder.

Copy to folder – a copy is created of the email and it is moved to the specified folder. The original email stays in your Inbox.

Delete – deletes spam from the user's mailbox.

Skip – leaves the email in your Inbox.

To assign these rules, select the appropriate value from the dropdown list in the **Spam** or **Probable Spam** section.

13.3.10. Configuring spam processing in The Bat!

This option is only supported for the 32-bit build of The Bat! for computers running Microsoft Windows XP Professional x64 Edition and Microsoft Windows Vista x64.

Actions for spam and probable spam in The Bat! are defined by the email client's own tools.

To set up spam processing rules in The Bat!:

1. Select **Preferences** from the email client's **Options** menu.
2. Select **Anti-Spam** from the settings tree (see Figure 68).

The protection settings for spam presented extend to all anti-spam modules installed on the computer that support work with The Bat!

You must set the rating level and specify how to respond to emails with a certain rating (in the case of Anti-Spam, the likelihood that the email is spam):

- Delete the emails with a rating higher than a given value.
- Move emails with a given range of ratings to a special folder for spam.
- Move spam marked with special headers to the spam folder.
- Leave spam in your Inbox.

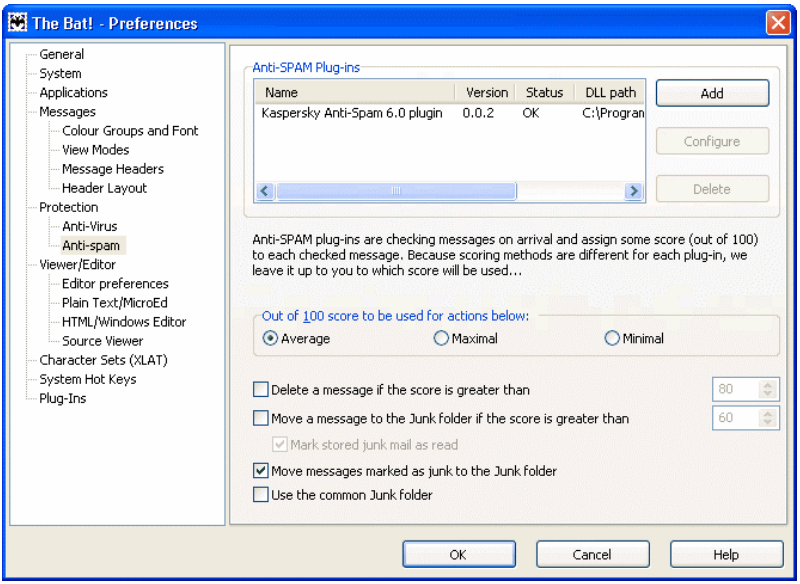


Figure 68. configuring spam recognition and processing in The Bat!

Warning!

After processing an email, Kaspersky Internet Security assigns a spam or potential spam status to the email based on a factor (see 13.3.3 on pg. 177) with a value that you can adjust. The Bat! has its own spam rating method, also based on a spam factor. To ensure that there is no discrepancy between the spam factor in Kaspersky Internet Security and in The Bat!, all the emails scanned by Anti-Spam are assigned a rating in accordance with the email status categories used by The Bat!: *accepted email* – 0%, *probably spam – 50 %*, spam – *100 %*.

This way, the spam rating in The Bat! corresponds not to the email factor assigned in Anti-Spam but to the factor of the corresponding status.

For more details on the spam rating and processing rules, see documentation for The Bat!

CHAPTER 14. PARENTAL CONTROL

Parental Control is a Kaspersky Internet Security component that monitors user access to the Internet. Its main objective is to restrict access, first and foremost, to the following resources:

- Websites for an adult audience or whose contents deal with pornography, weapons, illicit drugs, violence, etc.
- Websites that could lead to wasting time (chat rooms, games) or money (e-stores, auctions).

It should be noted that such websites often contain a large number of malicious programs, and downloading data from such sites as gaming sites can substantially boost Internet traffic.

User access to websites is restricted by giving a user one of the three pre-installed *profiles* for accessing the Internet.

A profile consists of a set of rules that control any user attempt to access any website. The decision to allow or block access to a certain website is made by comparing its URL to white and black lists of web addresses and by classifying the contents of the page in one or several blocked categories.

If a profile is not assigned, the most restrictive **Child** profile is assigned by default. A single profile may be assigned more than one account. By logging into the system using a user account, the user is granted access to web resources exactly as permitted by the assigned profile's settings.

Parent and **Teenager** may be password protected (cf. 14.2.1, p. 194). You can only switch to a password-protected profile after entering this password.

Let's take a look at how Parental Control works:

1. The user logs into the system.
    - If the account under which the user logs into the system is not assigned one of the available profiles, the most restrictive **Child** profile is loaded by default;
    - if the user account is linked to a certain profile, that profile is loaded.
2. The user accesses a website while using the computer under the user account controlled by the active profile.

A verification is performed for access time limitations (cf. Section 14.2.6, p. 200). The URL of the requested page is scanned and matched against the white list of allowed URLs and the black list of disallowed URLs (cf. Section 14.2.3, p. 198), and page content is analyzed to determine whether it falls under disallowed categories.

In the event that after the above actions are completed no time constraint is discovered, the web address is explicitly specified in the white list and is not listed in the black list, and in the event that the page is not in a disallowed category, it is loaded into the browser window. If even one of these conditions is not met, the website is blocked.

3. The user is not given access to the requested website because of the restrictions on the active profile. For example, the default profile or another user's profile with substantial restrictions is currently active. If the user has access to the password for a profile other than the active one, he/she can switch to that profile (cf. Section 14.1, p. 193).

14.1. Switching users

The currently active profile may be changed. This may be required if the active profile has restrictions in access to the Internet.

if you know the **Parent** or **Teenager** profile password (no password may be specified for the **Child** profile), you can switch profiles in the application main window. Select **Parental Control** under **Protection** and click on Switch Profiles. Select the desired profile from a drop down list in the resulting window and enter password.

14.2. Parental Control Settings

Warning:

When using Parental Control, we recommend enabling application password protection (cf. Section 19.9.2, p. 275). This helps to avoid unauthorized changes to profile settings by other users.

To configure the Parental Control settings, take the following actions:

- Enable profiles and assign profiles to user accounts (cf. 14.2.1, p 194)
- Password protect profile access (cf. 14.2.1, p 194)
- Set the level of restrictiveness (cf. Section 14.2.2, p. 196) for each profile and select filter settings for the selected level (cf. Section 14.2.3, p. 225).

- Select actions to be applied in the event of an attempt to access disallowed web sites (cf. Section 14.2.5, p. 200).
- Set time limits for Internet access for each profile (cf. Section 14.2.6, p. 200).

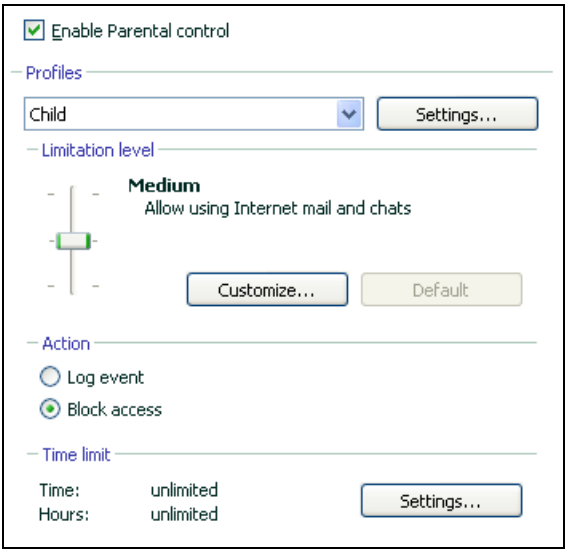


Figure 69. Configuring Parental Control

14.2.1. Working with profiles

A *Profile* is a set of rules that control user access to certain websites. There are three default preinstalled profiles:

- **Child** (this profile is the default)
- **Adolescent**
- **Parent**

An optimized set of rules has been developed for each preinstalled profile, taking into account age, experience, and other group characteristics. The **Child** profile has the greatest restrictions, whereas the **Parent** profile has none. Preinstalled profiles may not be deleted but **Child** and **Teenager** may be modified at user discretion.

Following installation, **Child** is the default profile for all users that have not been explicitly assigned a profile.

To use preconfigured **Teenager** and **Parent** profiles, check **Use Profile** on the **Profile Settings** tab (cf. Figure 70). As a result, the selected profiles will be displayed in a drop-down list under **Profiles** in the **Parental Control** configuration dialog (cf. Figure 69).

Under **Password** a password may be specified to restrict user access to web resources with the profile in question. Subsequent switching to this profile (cf. Section 14.1, p. 193) will not be possible without entering the password. If the **Password** field has been left empty, every user will be able to switch to this profile. **Child** is not password protected.

Under **Users** Microsoft Windows accounts may be assigned a Microsoft Windows user account by clicking **Add** and selecting the desired account in a standard Microsoft Windows dialog (cf. operating system help for more detail).

To remove an account from a profile, select the account from the list and click **Delete**.

To edit profile settings:

1. Open the application settings window and select **Parental Control** under **Protection** (cf. Figure 69).
2. Select a preinstalled profile you wish to modify from the drop-down list under **Profiles** and click **Settings**.

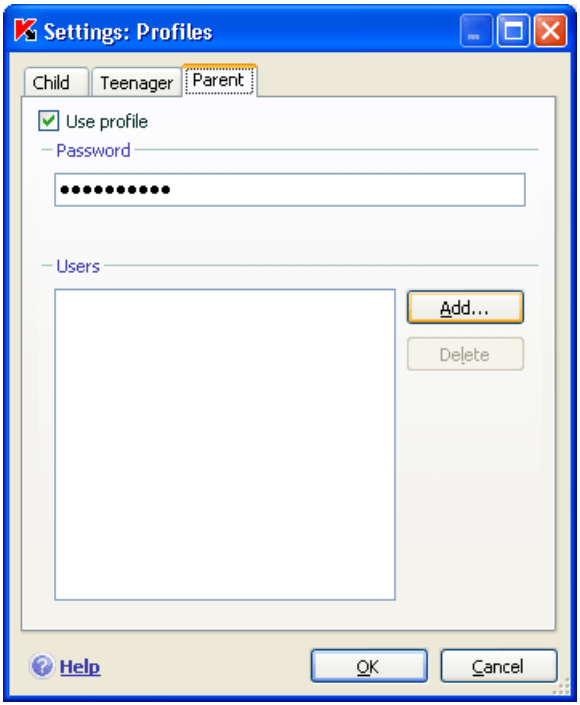


Figure 70. Parental Control Profiles

14.2.2. Selecting Security Level

Parental Control provides access control to Internet resources at one of the following levels (cf. Figure 71):

Maximum Protection: a level at which access to web sites in all categories is restricted (cf. Section 14.2.3, p. 198).

Medium. This level's settings are recommended by Kaspersky Lab experts. It allows access to web mail and chat rooms.

High Speed: a level whose settings allow access to all internet resources except for those in the "hardest" categories, such as drugs, violence, pornography, etc.

By default access control to internet resources is set to the **Medium** level. This level of access control may be raised or lowered by selecting the appropriate settings or reconfiguring the current security level.

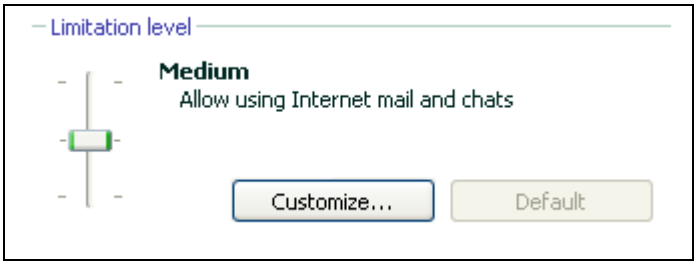


Figure 71. Selecting Security Level

To modify security level:

move slider. By adjusting the security level, you define the number of disallowed web site categories which will be considered for access to internet resources.

If none of the restriction levels meet your requirements, they may be customized. Select a level closest to your requirements as basis and edit its settings. This will change the security level to Custom. Let us look at an example when preconfigured restriction level settings may need to be modified.

Example:

You would like to prevent your child from visiting adult web sites or web sites that will potentially cause loss of time or money. However, you must send your child email messages with some useful information.

Tip on level selection:

Select the **Child** profile. The **Medium** level of restrictions may be used as basis with the following modifications: impose a restriction on visits to chat rooms and web mail and add the external mail service with your child's mailbox to the white list. This will give your child access to this mail service only.

To change current level of restrictions:

1. Open the application settings window and select **Parental Control** under **Protection**.
2. Click the **Customize** button under **Security Level** (cf. Figure 71).
3. Edit filter parameters in the resulting window and click **OK**.

This will create a fourth security level (Another) with customized security settings.

14.2.3. Filter settings

The restrictions placed on Parental Control profiles are based on filters. A *Filter* is a collection of criteria used by Parental Control to make a decision on whether to open a particular website.

Sites can be filtered in several ways:

- *Using a white list*. In this case, a list of websites that are definitely allowed is created.
- *Using a black list*. This method uses a list of blocked websites.
- *Using blocked categories*. In this case, the contents of websites are analyzed using keywords that classify them in certain thematic categories. If the number of words in an unwanted category exceeds the selected threshold, access to that site will be blocked.

  The keyword database is included with Kaspersky Internet Security and is updated along with the program.

  Note: The blocked categories listed is limited to the default list. You cannot create your own blocked categories.

To edit filter settings for the selected security level:

1. Open the application settings window and select **Parental Control** under **Protection**.
2. Click **Customize** under **Security Level** (cf. Figure 71).
3. Edit filter parameters using appropriate tabs in the **Profile Settings : <Profile Name>** (cf. Figure 72).

To configure the filter for a profile, enter allowed and/or blocked addresses in the white or black lists respectively and/or specify the blocked categories for website filtering.

To edit or delete addresses from the white or black lists, use the appropriate buttons.

To create a list of allowed or blocked addresses, you must enter each address in the corresponding field in the **Adding URL Address Masks** window.

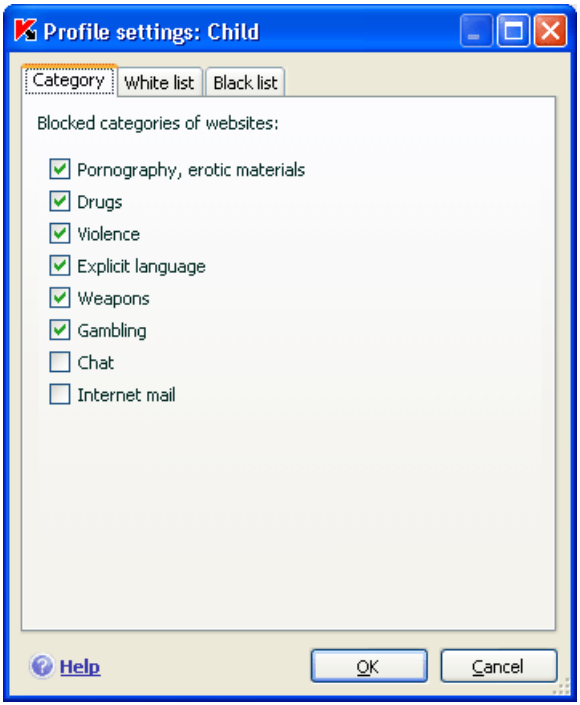


Figure 72. Configuring Filter Settings

When entering a trusted/blocked address, you can create masks with the following wildcards:

- any combination of characters.

Example: If you create the mask ***abc***, no URL contain **abc** will be scanned. For example: www.virus.com/download_virus/page_0-9abcdef.html.

? - any one character.

Example: If you create mask **Patch_123?.com**, URLs containing that series of characters plus any character following the 3 will not be scanned. For example: **Patch_1234.com**. However, **patch_12345.com** will be scanned.

If an ***** or **?** is part of an actual URL added to the list, when you enter them, you must use a backslash to override the ***** or **?**, or **** following it.

Example: You want to add this following URL to the trusted address list: www.virus.com/download_virus/virus.dll?virus_name=

For Kaspersky Internet Security not to process **?** as a wildcard, put a backslash in front of it. Then the URL that you are adding to the exclusion list will be as follows: www.virus.com/download_virus/virus.dll?virus_name=

14.2.4. Recovering Default Profile Settings

In configuring Parental Control, there is always the option to fall back on the recommended settings. These are considered optimized, are recommended by Kaspersky Lab specialists, and are grouped into the **Medium** security level.

To restore default email protection settings,

1. Open the application settings window and select **Parental Control** under **Protection**.
2. Click the **Default** button under **Security Level** (cf. Figure 71).

14.2.5. Configuring Response to Attempts to Access Disallowed Web Sites

If a user attempts to access a disallowed web resource, the Parental Control component will apply the action specified under **Action** (cf. Figure 70) in the **Parental Control** section of the application settings window.

By default, the Parental Control component will block and log access attempt information. Let us review control options relative to an attempt to access disallowed web sites.

If you specified	If unauthorized access to a disallowed web resource is detected the action is to
Log Event	Component will log attempts to access a disallowed web resource.
Block Access	Component will block access to the disallowed site and log the event.

14.2.6. Access Time Limit

Time limits for internet access may be configured under **Time Limit** (cf. Figure 70) in the Parental Control section of the application settings window. Click **Settings** to configure a restriction.

Under **Maximum Time**, you may specify the total amount of time (hours) access to the Internet is granted in a 24-hour period.

To limit access to the Internet to the certain hours within day, check **Allow network access at specified time** and set time intervals when work on the Internet is allowed. For this use the **Add** button and in the opened window specify time limits. For editing the list of the resolved work intervals use corresponding buttons.

If you specified both the time limits with one limit greater than the other, the lesser value will be selected.

Example: for the **Child** profile you specified 3 hours under **Maximum Time** that a user with this profile will have access to internet resources, and 2 pm to 3 pm under **Allowed time**. As a result, access to the Internet will be allowed during the latter time period only despite the permitted number of hours.

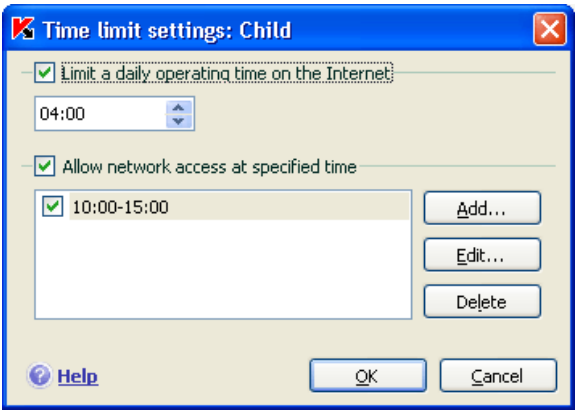


Figure 73. Access Time Limit

CHAPTER 15. SCANNING COMPUTERS FOR VIRUSES

One of the important aspects of protecting your computer is scanning user-defined areas for viruses. Kaspersky Internet Security can scan individual items – files, folders, disks, removable devices – or the entire computer. Scanning for viruses stops malicious code which has gone undetected by real-time protection components from spreading.

Kaspersky Internet Security includes the following default scan tasks:

Critical Areas

Scans all critical areas of the computer for viruses, including: system memory, programs loaded on startup, boot sectors on the hard drive, and the *Windows* and *system32* system directories. The task aims to detect active viruses quickly on the system without fully scanning the computer.

My Computer

Scans for viruses on your computer with a thorough inspection of all disk drives, memory, and files.

Startup Objects

Scans for viruses all programs loaded when the operating system boots.

Rootkit Scans (Rootkits)

Scans the computer for rootkits that hide malicious programs in the operating system. These utilities injected into system, hiding their presence and the presence of processes, folders, and registry keys of any malicious programs described in the configuration of the rootkit.

The default settings for these tasks are the recommended ones. You can edit these settings (see 15.4 on pg. 206) or create a schedule (cf. Section 6.6, p. 67) for running tasks.

You also have the option of creating your own tasks (see 15.3 on pg. 205) and creating a schedule for them. For example, you can schedule a scan task for email databases once per week, or a virus scan task for the **My Documents** folder.

In addition, you can scan any object for viruses (for example, the hard drive where programs and games are, e-mail databases that you've brought home from work, an archive attached to an e-mail, etc.) without creating a special scan task. You can select an object to scan from the Kaspersky Internet Security

interface, or with the standard tools of the Microsoft Windows operating system (for example, in the **Explorer** program window or on your **Desktop**).

You can view a complete list of virus scan tasks for your computer by clicking on **Scan** in the left-hand pane of the main application window.

You can create a rescue disk (cf. Section 19.4, p. 259) designed to help recover the system following a virus attack resulting in operating system file damage and boot failure. To accomplish this, click on **Create Rescue Disk**.

15.1. Managing virus scan tasks

You can run a virus scan task manually or automatically using a schedule (see Section 6.7, p. 80).

To start a virus scan task manually:

Select the task under **Scan** in the application main window and click Start Scan.

The tasks currently being performed are displayed in the context menu by right-clicking on the system tray icon.

To pause a virus scan task:

Select the under **Scan** in the application main window and click Pause. This will pause the scan until you start the task again manually or it starts again automatically according to the schedule. For manually task start click Resume.

To stop a task:

Select under **Scan** in the application main window and click Stop. This will stop the scan until you start the task again manually or it starts again automatically according to the schedule. The next time you run the task, the program will ask if you would like to continue the task where it stopped or begin it over.

15.2. Creating a list of objects to scan

To view a list of objects to be scanned for a particular task, select the task name (for example, **My computer**) in the **Scan** section of main program window. The list of objects will be displayed in the right-hand part of the window (see Figure 74

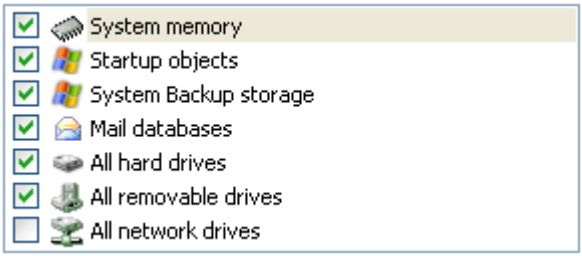


Figure 74. List of objects to scan

Object scan lists are already made for default tasks created when you install the program. When you create your own tasks or select an object for a virus scan task, you can create a list of objects.

You can add to or edit an object scan list using the buttons to the right of the list. To add a new scan object to the list, click the **Add** button, and in the window that opens select the object to be scanned.

For the user's convenience, you can add categories to a scan area such as mail databases, RAM, startup objects, operating system backup, and files in the Kaspersky Internet Security Quarantine folder.

In addition, when you add a folder that contains embedded objects to a scan area, you can edit the recursion. To accomplish this, select an object from the list of objects to be scanned, open the context menu, and use the **Include Subfolders** option.

To delete an object, select it from the list (object name will be highlighted in grey) and click **Delete**. Scans of certain objects may be temporarily disabled for some tasks without the objects' themselves being deleted from the list. Simply uncheck the object to be skipped.

To start a task, click Start Scan.

In addition, you can select an object to be scanned with the standard tools of the Microsoft Windows operating system (for example, in the Explorer program window or on your Desktop, etc.) (see Figure 75). To do so, select the object, open the Microsoft Windows context menu by right-clicking, and select **Scan for viruses**.

Figure 75. Scanning objects from the Microsoft Windows context menu

15.3. Creating virus scan tasks

To scan objects on your computer for viruses, you can use built-in scan tasks included with the program and create your own tasks. New scan tasks are created using existing tasks that a template.

To create a new virus scan task:

1. Select a task whose settings are closest to your requirements under **Scan** in the application main window.
2. Open context menu and select **Save As** or click on **New Scan Task**.
3. Enter the name for the new task in the window that opens and click **OK**. A task with that name will then appear in the list of tasks in the **Scan** section of the main program window.

Warning!

There is a limit to the number of tasks that the user can create. The maximum is four tasks.

The new task is a copy of the one it was based on. You need to continue setting it up by creating an scan object list (see 15.2 on pg. 203), setting up properties that govern the task (see 15.4 on pg. 206), and, if necessary, configuring a schedule (cf. 6.6, p. 67) for running the task automatically.

To rename an existing task:

select the task under **Scan** in the application main window and click **Rename**.

Enter the new name for the task in the window that opens and click **OK**. The task name will also be changed in the **Scan** section.

To delete an existing task:

select the task under **Scan** in the application main window and click **Delete**.

You will be asked to confirm that that you want to delete the task. The task will then be deleted from the list of tasks in the **Scan** section.

Warning!

You can only rename and delete tasks that you have created.

15.4. Configuring virus scan tasks

The methods are used to scan objects on your computer are determined by the properties assigned for each task.

To configure task settings:

open application settings window, select task name under **Scan,** and use the Settings link.

You can use the settings window for each task to:

- Select the security level that the task will use (see 15.4.1 on pg. 207)
- Edit advanced settings:
  - define what file types are to be scanned for viruses (see 15.4.2 on pg. 208)
  - configure task start using a different user profile (cf. 6.6, p. 67)
  - configure advanced scan settings (see 15.4.3 on pg. 210)
  - enable rootkit scans (cf. Section 15.4.6, p. 214) and the heuristic analyzer (cf. Section 15.4.7, p. 214);
- restore default scan settings (see 15.4.6 on pg. 214)
- select an action that the program will apply when it detects an infected or potentially infected object (see 15.4.7 on pg. 214)
- create a schedule (cf. 6.7, p. 68) to run tasks automatically.

In addition, you can configure global settings (see 15.4.8 on pg. 216) for running all tasks.

The following sections examine the task settings listed above in detail.

15.4.1. Selecting a security level

Each virus scan task can be assigned a security level (see Figure 76):

Maximum Protection – the most complete scan of the entire computer or individual disks, folders, or files. You are advised to use this level if you suspect that a virus has infected your computer.

Recommended – Kaspersky Lab experts recommend this level. The same files will be scanned as for the **Maximum Protection** setting, except for email databases.

High Speed – level with settings that let you comfortably use resource-intensive applications, since the scope of files scanned is reduced.

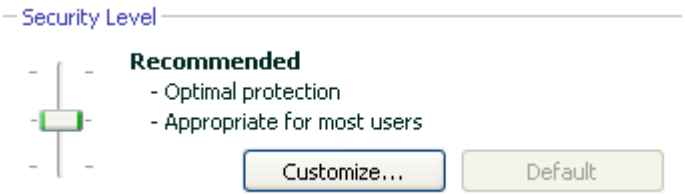


Figure 76. Selecting a virus scan security level

By default, the File Anti-Virus security level is set to **Recommended**.

You can raise or lower the scan security level by selecting the level you want or changing the settings for the current level.

To edit the security level:

Adjust the sliders. By adjusting the security level, you define the ratio of scan speed to the total number of files scanned: the fewer files are scanned for viruses, the higher the scan speed.

If none of the file security levels listed meet your needs, you can customize the protection settings. It is recommended that you select a level closest to your requirements as basis and edit its parameters. This will change the name of the security level to **Custom**.

To modify the settings for a security level:

1. Open application settings window and select a scan task under **Scan**.

2. Click on **Customize** under **Security Level** (cf. Figure 77).
3. Edit file protection parameters in the resulting window and click **OK**.

15.4.2. Specifying the types of objects to scan

By specifying the types of objects to scan, you establish which file formats, files sizes, and drives will be scanned for viruses when this task runs.

The file types scanned are defined in the **File types** section (see Figure 77). Select one of the three options:

- **Scan all files**. With this option, all objects will be scanned without exception.
- **Scan programs and documents (by content)**. If you select this group of programs, only potentially infected files will be scanned – files into which a virus could imbed itself.

  Note:

  There are files in which viruses cannot insert themselves, since the contents of such files does not contain anything for the virus to hook onto. An example would be .txt files.

  And vice versa, there are file formats that contain or can contain executable code. Examples would be the formats .exe, .dll, or .doc. The risk of insertion and activation of malicious code in such files is fairly high.

  Before searching for viruses in an object, its internal header is analyzed for the file format (txt, doc, exe, etc.).

- **Scan programs and documents (by extension)**. In this case, the program will only scan potentially infected files, and in doing so, the file format will be determined by the filename's extension. Using the link, you can review a list of file extensions that are scanned with this option (see A.1 on pg. 301).

Tip:

Do not forget that someone could send a virus to your computer with the extension .txt that is actually an executable file renamed as a .txt file. If you select the **Scan Programs and documents (by extension)** option, the scan would skip such a file. If the **Scan Programs and documents (by contents)** is selected, the program will analyze file headers, discover that the file is an .exe file, and thoroughly scan it for viruses.

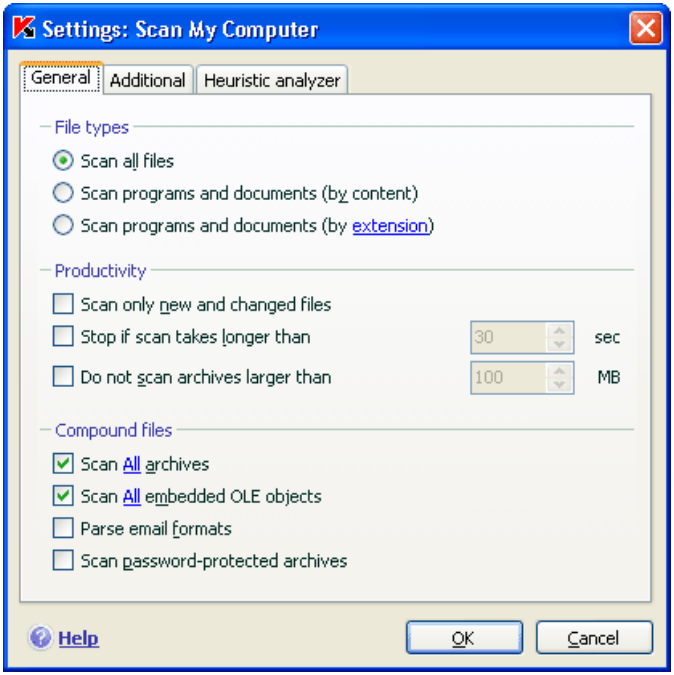


Figure 77. Configuring scan settings

In the **Productivity** section, you can specify that only new files and those that have been modified since the previous scan or new files should be scanned for viruses. This mode noticeably reduces scan time and increases the program's performance speed. To do so, you must check **Scan only new and changed files**. This mode extends to simple and compound files.

You can also set time and file size limits for scanning in the **Productivity** section.

Skip if scan takes longer than... secs. Check this option and enter the maximum scan time for an object. If this time is exceeded, this object will be removed from the scan queue.

Skip if object is larger than…MB. Check this option and enter the maximum size for an object. If this size is exceeded, this object will be removed from the scan queue.

In the **Compound files** section, specify which compound files will be analyzed for viruses:

Scan All/New Only archives – scan .rar, .arj, .zip, .cab, .lha, .jar, and .ice archives.

Warning!

Kaspersky Internet Security does not delete compressed file formats that it does not support (for example, .ha, .uue, .tar) automatically, even if you select the option of automatically curing or deleting if the objects cannot be cured.

To delete such compressed files, click the Delete archives link in the dangerous object detection notification. This notification will be displayed on the screen after the program begins processing objects detected during the scan. You can also delete infected archives manually.

Scan All/New Only embedded OLE objects – scan objects imbedded in files (for example, Excel spreadsheets or a macro imbedded in a Microsoft Word file, email attachments, etc.).

You can select and scan all files or only new ones for each type of compound file. To do so, use the link next to the name of the object. It changes its value when you left-click on it. If the **Productivity** section has been set up only to scan new and modified files, you will not be able to select the type of compound files to be scanned.

Parse email formats – scan email files and email databases. If this checkbox is selected, Kaspersky Internet Security will parse the mail file and analyze every component of the e-mail (body, attachments) for viruses. If this checkbox is deselected, the mail file will be scanned as a single object.

Please note, when scanning password-protected email databases:

- Kaspersky Internet Security detects malicious code in Microsoft Office Outlook 2000 databases but does not disinfect them;
- Kaspersky Internet Security does not support scans for malicious code in Microsoft Office Outlook 2003 protected databases.

Scan password-protected archives – scans password protected archives. With this feature, a window will request a password before scanned archived objects. If this box is not checked, password-protected archives will be skipped.

15.4.3. Additional virus scan settings

In addition to configuring the basic virus scan settings, you can also use additional settings (see Figure 78):

Enable iChecker technology – uses technology that can increase the scan speed by excluding certain objects from the scan. An object is excluded from the scan using a special algorithm that takes into account the release date of

the application databases, the date the object was last scanned, and modifications to scan settings.

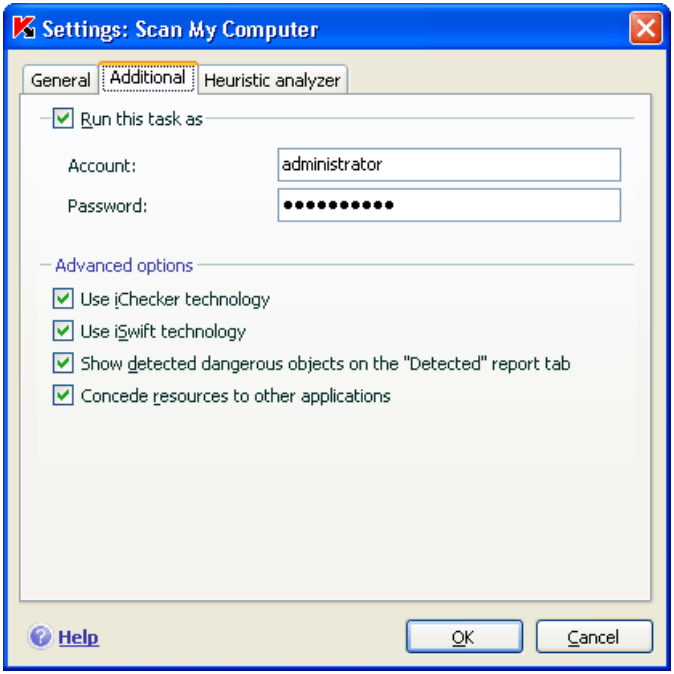


Figure 78. Advanced scan settings

For example, you have an archived file that the program scanned and assigned the status of not infected. The next time, the program will skip this archive, unless it has been modified or the scan settings have been changed. If the structure of the archive has changed because a new object has been added to it, if the scan settings have changed, or if the application databases have been updated, the program will scan the archive again.
There are limitations to iChecker™: it does not work with large files and only applies to objects with a structure that Kaspersky Internet Security recognizes (for example, *.exe, .dll, .lnk, .ttf, .inf, .sys, .com, .chm, .zip, .rar*).

Enable iSwift technology. This technology is a development of iChecker technology for computers using an NTFS file system. There are limitations to iSwift: it is bound to a specific location for the file in the file system and can only be applied to objects in an NTFS file system.

Show detected dangerous objects on the "Detected" report tab – display a list of threats detected during the scan on the **Detected** tab of the report (see 19.3.2 on pg. 244) window. Disabling this function may be appropriate

for special scans, for example of text collections, to increase the scan speed.

Give other applications priority over resources – pause that virus scan task if the processor is busy with other applications.

15.4.4. Scanning for rootkits

A rootkit is a collection of utilities used to conceal malicious programs within the operating system. These utilities infiltrate the operating system, masking both their own presence and the presence of processes, folders, and registry keys belonging to any malware described in the rootkit's configuration.

Rootkit scans may be performed by any virus scan task (provided this option is enabled for the specific task); however, Kaspersky Lab experts have created and optimized a separate scan task to look for this type of malware.

To enable scanning for rootkits, check **Enable rootkit detection** under **Rootkit Scan**. If scanning is enabled, an in-depth rootkit scan level may be requested by checking **Enable extended rootkit scan**. If you do so, the scan will carefully search for these programs by analyzing a large number of various objects. These checkboxes are deselected by default, since this mode requires significant operating system resources.

To configure rootkit scans:

1. Open application settings window and select a task under **Scan**.
2. Click **Customize** under **Security Level** (cf. Figure 76) and select the **Heuristic Analyzer** tab in the resulting window (cf. Figure 79).

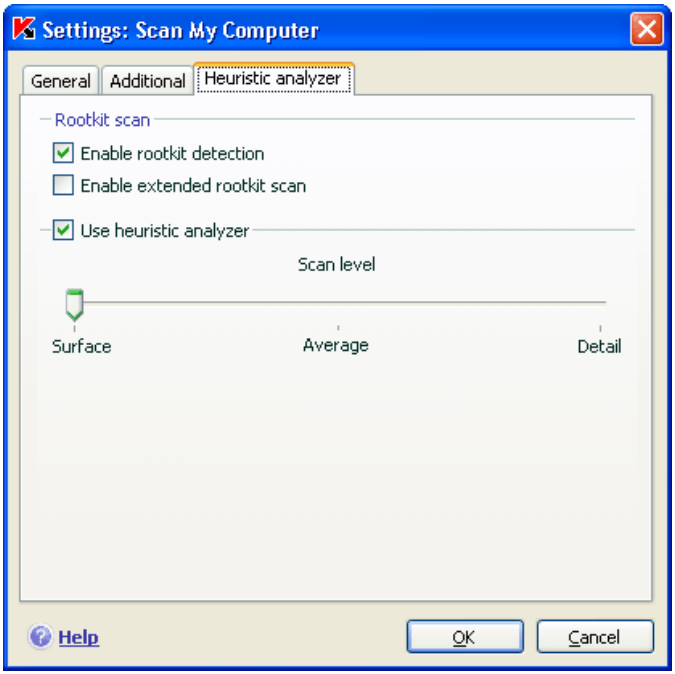


Figure 79. Configuring rootkit scans and heuristic methods

15.4.5. Using heuristic methods

Heuristic methods are utilized by several real-time protection components and virus scan tasks (cf. Section 7.2.4 at p. 90 for more detail).

The **Heuristic Analyzer** tab (see Figure 79) may be used to disable / enable virus scan heuristic analysis for unknown threats. This requires that the following steps be performed:

1. Open the application settings window and select a task under **Scan**.
2. Click on **Customize** under **Security Level** and open the **Heuristic Analyzer** tab in the resulting dialog.

To use heuristic methods, check ☑ **Use Heuristic Analyzer**. An additional level of granularity may be set for the scan by moving the slider to one of the following settings: **shallow, medium,** or **detail**.

15.4.6. Restoring default scan settings

When configuring scan task settings, you can always return to the recommended settings. Kaspersky Lab considers them to be optimal and has combined them in the **Recommended** security level.

To restore the default virus scan settings:

1. Open the application settings window and select a task under **Scan**.
2. Click the **Default** button under **Security Level** (cf. Figure 76).

15.4.7. Selecting actions for objects

If a file is found to be infected or suspicious during a scan, the program's next steps depend on the object status and the action selected.

One of the following statuses can be assigned to the object after the scan:

- Malicious program status (for example, *virus, Trojan*).
- *Potentially infected*, when the scan cannot determine whether the object is infected. It is likely that the program detected a sequence of code in the file from an unknown virus or modified code from a known virus.

By default, all infected files are disinfected, and if they are potentially infected, they are sent to Quarantine.

To edit an action for an object:

open the application settings window and select a task under **Scan**. All possible actions are shown in the relevant section (cf. Figure 80).

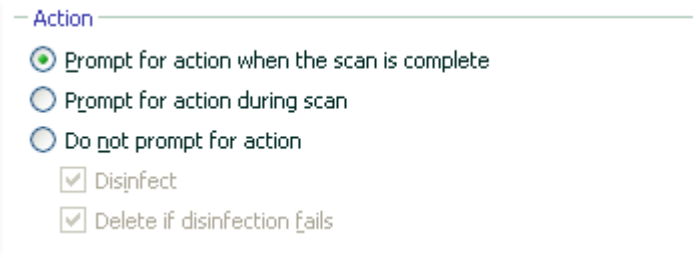

Action
Prompt for action when the scan is complete
Prompt for action during scan
Do not prompt for action
Disinfect
Delete if disinfection fails

Figure 80. Selecting actions for dangerous objects

If the action selected was	When it detects a malicious or potentially infected object
Prompt for action when the scan is complete	The program does not process the objects until the end of the scan. When the scan is complete, the statistics window will pop up with a list of objects detected, and you will be asked if you want to process the objects.
Prompt for action during scan	The program will issue a warning message containing information about what malicious code has infected or potentially infected the file, and gives you the choice of one of the following actions.
Do not prompt for action	The program records information about objects detected in the report without processing them or notifying the user. You are advised not to use this feature, since infected and potentially infected objects stay on your computer and it is practically impossible to avoid infection.
Do not prompt for action **Disinfect**	The program attempts to treat the object detected without asking the user for confirmation. If disinfection fails, the file will be assigned the status of *potentially infected*, and it will be moved to Quarantine (see 19.1 on pg. 235). Information about this is recorded in the report (see 19.3 on pg. 240). Later you can attempt to disinfect this object.
Do not prompt for action **Disinfect** **Delete if disinfection fails**	The program attempts to treat the object detected without asking the user for confirmation. If the object cannot be disinfected, it is deleted.
Do not prompt for action **Disinfect** **Delete**	The program automatically deletes the object

When disinfecting or deleting an object, Kaspersky Internet Security creates a backup copy of it, and sends it to Backup (see 19.2 on pg. 238) in case the object needs to be restored or an opportunity arises later to treat it.

15.4.8. Setting up global scan settings for all tasks

Each scan task is executed according to its own settings. By default, the tasks created when you install the program on your computer use the settings recommended by Kaspersky Lab.

You can configure global scan settings for all tasks. You will use a set of properties used to scan an individual object for viruses as a starting point.

To assign global scan settings for all tasks:

1. Open program settings window and select the **Scan** section.
2. Configure the scan settings: Select the security level (see Section 15.4.1, p. 207), configure advanced level settings, and select an action (see Section 15.4.4, p. 212) for objects.
3. To apply these new settings to all tasks, click the **Apply** button in the **Other scan tasks** section. Confirm the global settings that you have selected in the popup dialogue box.

CHAPTER 16. TESTING KASPERSKY INTERNET SECURITY FEATURES

After installing and configuring Kaspersky Internet Security, we recommend that you verify that settings and program operation are correct using a test virus and variations of it.

16.1. The EICAR test virus and its variations

The test virus was specially developed by eicar (The European Institute for Computer Antivirus Research) for testing anti-virus functionality.

The test virus IS NOT A VIRUS and does not contain program code that could damage your computer. However, most antivirus programs will identify it as a virus.

Never use real viruses to test the functionality of an antivirus!

You can download the test virus from the official **EICAR** website: http://www.eicar.org/anti_virus_test_file.htm.

The file that you downloaded from the **EICAR** website contains the body of a standard test virus. Kaspersky Internet Security will detected, label it a **virus**, and take the action set for that object type.

To test the reactions of Kaspersky Internet Security when different types of objects are detected, you can modify the contents of the standard test virus by adding one of the prefixes in the table shown here.

Prefix	Test virus status	Corresponding action when the application processes the object
No prefix, standard test virus	The file contains a test virus. You cannot disinfect the object.	The application will identify the object as malicious and not subject to treatment and will delete it.

Prefix	Test virus status	Corresponding action when the application processes the object
CORR–	Corrupted.	The application could access the object but could not scan it, since the object is corrupted (for example, the file structure is breached, or it is an invalid file format).
SUSP– WARN–	The file contains a test virus (modification). You cannot disinfect the object.	This object is a modification of a known virus or an unknown virus. At the time of detection, the application databases do not contain a description of the procedure for treating this object. The application will place the object in Quarantine to be processed later with updated databases.
ERRO–	Processing error.	An error occurred while processing the object: the application cannot access the object being scanned, since the integrity of the object has been breached (for example, no end to a multivolume archive) or there is no connection to it (if the object is being scanned on a network drive).
CURE–	The file contains a test virus. It can be cured. The object is subject to disinfection, and the text of the body of the virus will change to CURE.	The object contains a virus that can be cured. The application will scan the object for viruses, after which it will be fully cured.
DELE–	The file contains a test virus. You cannot disinfect the object.	This object contains a virus that cannot be disinfected or is a Trojan. The application deletes these objects.

The first column of the table contains the prefixes that need to be added to the beginning of the string for a standard test virus. The second column describes the status and reaction of Kaspersky Internet Security to various types of test virus. The third column contains information on objects with the same status that the application has processed.

Values in the anti-virus scan settings determine the action taken on each of the objects.

16.2. Testing File Anti-Virus

To test the functionality File Anti-Virus;

1. Create a folder on a disk, copy to it the test virus downloaded from the organization's official website (see 16.1 on pg. 217), and the modifications of the test virus that you created.
2. Allow all events to be logged so the report file retains data on corrupted objects and objects not scanned because of errors. To do so, check **Log non-critical events** under **Reports and data files** in the application settings window (see Section 19.3.1, p. 243).
3. Run the test virus or a modification of it.

File Anti-Virus will intercept your attempt to access the file, will scan it, and will inform you that it has detected a dangerous object:

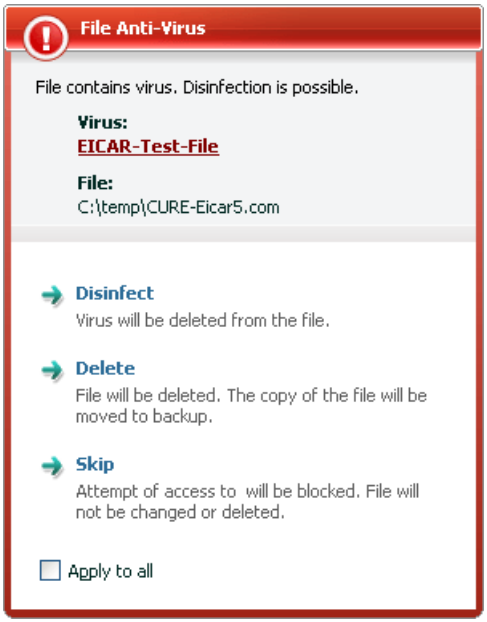

File Anti-Virus
File contains virus. Disinfection is possible.
Virus:
EICAR-Test-File
File:
C:\temp\CURE-Eicar5.com
Disinfect
Virus will be deleted from the file.
Delete
File will be deleted. The copy of the file will be moved to backup.
Skip
Attempt of access to will be blocked. File will not be changed or deleted.
Apply to all

Figure 81. Dangerous object detected

When you select different options for dealing with detected objects, you can test File Anti-Virus's reaction to detecting various object types.

You can view details on File Anti-Virus performance in the report on the component.

16.3. Testing Virus scan tasks

To test Virus scan tasks:

1. Create a folder on a disk, copy to it the test virus downloaded from the organization's official website (see 16.1 on pg. 217), and the modifications of the test virus that you created.
2. Create a new virus scan task (see 15.3 on pg. 204) and select the folder containing the set of test viruses as the objects to scan (see 16.1 on pg. 217).
3. Allow all events to be logged so the report file retains data on corrupted objects and objects not scanned because of errors. To do so, check **Log non-critical events** under **Reports and data files** in the application settings window (cf. Section 19.3.1, p. 243).

4. Run the virus scan task (see 15.1 on pg. 203).

When you run a scan, as suspicious or infected objects are detected, notifications will be displayed on screen will information about the objects, prompting the user for the next action to take:

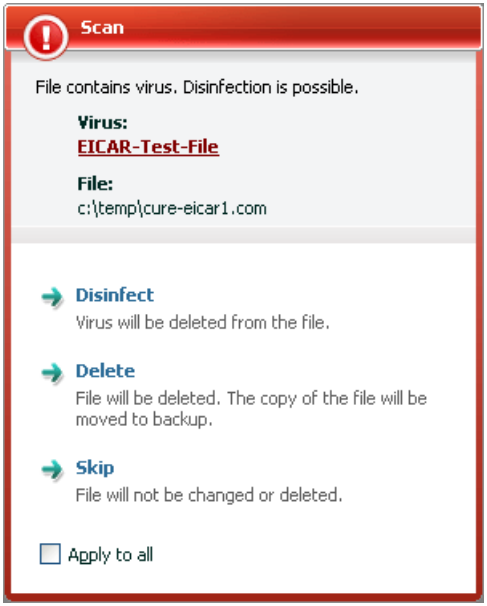


Figure 82. Dangerous object detected

This way, by selecting different options for actions, you can test Kaspersky Internet Security reactions to detecting various object types.

You can view details on virus scan task performance in the report on the component.

CHAPTER 17. PROGRAM UPDATES

Keeping your anti-virus software up-to-date is an investment in your computer's security. Because new viruses, Trojans, and malicious software emerge daily, it is important to regularly update the application to keep your information constantly protected.

Updating the application involves the following components being downloaded and installed on your computer:

- **Anti-virus database, firewall database, and network drivers**

  Information on your computer is protected using a database containing threat signatures and network attack profiles. The software components that provide protection use the database of threat signatures to search for and disinfect harmful objects on your computer. The databases are added to every hour, with records of new threats and methods to combat them. Therefore, it is recommended that they are updated on a regular basis.

  In addition to the threat signatures and the network attack database, network drivers that enable protection components to intercept network traffic are updated.

  Previous versions of Kaspersky Lab applications have supported *standard* and *extended* databases sets. Each database dealt with protecting your computer against different types of dangerous objects. In Kaspersky Internet Security you don't need to worry about selecting the appropriate databases set. Now our products use databases that protect both from malware and riskware, as well as hacker attacks.

- **Application modules**

  In addition to the application databases, you can upgrade the modules for Kaspersky Internet Security. New application updates appear regularly.

The main update source for Kaspersky Internet Security is Kaspersky Lab's update servers. To download available updates from the update servers, your computer must be connected to the Internet.

Your computer has to be connected to the Internet to be able to download updates from update servers. In that event that connection to the Internet is through a proxy server, you will need to configure connection settings (cf. 19.7, p. 266).

If you do not have access to Kaspersky Lab's update servers (for example, your computer is not connected to the Internet), you can call the Kaspersky Lab main office at +7 (495) 797-87-00, +7 (495) 645-79-39 to request contact information for Kaspersky Lab partners, who can provide you with zipped updates on floppy disks or CDs.

Updates can be downloaded in one of the following modes:

- *Auto*. Kaspersky Internet Security checks the update source for update packages at specified intervals. Scans can be set to be more frequent during virus outbreaks and less so when they are over. When the program detects fresh updates, it downloads them and installs them on the computer. This is the default setting.
- *By schedule*. Updating is scheduled to start at a specified time.
- *Manual*. With this option, you launch the Updater manually.

During updating, the application compares the databases and application modules on your computer with the versions available on the update server. If your computer has the latest version of the databases and application modules, you will see a notification window confirming that your computer is up-do-date. If the databases and modules on your computer differ from those on the update server, only the missing part of the updates will be downloaded. The Updater does not download databases and modules that you already have, which significantly increases download speed and saves Internet traffic.

Before updating databases, Kaspersky Internet Security creates backup copies of them, that can be used if a rollback (see 17.2 on pg. 224) is required. If, for example, the update process corrupts the databases and leaves them unusable, you can easily roll back to the previous version and try to update the databases later.

You can distribute the updates retrieved to a local source while updating the application (see 17.3.3 on pg. 229. This feature allows you to update databases and modules used by 7.0 applications on networked computers to conserve bandwidth.

17.1. Starting the Updater

You can begin the update process at any time. It will run from the update source that you have selected (see 17.3.1 on pg. 225).

You can start the Updater from:

- the context menu (see 4.2 on pg. 46).
- from the program's main window (see 4.3 on pg. 48)

To start the Updater from the shortcut menu:

1. Right click the application icon in the system tray to open the shortcut menu.
2. Select **Update**.

To start the Updater from the main program window:

1. Open application main window and select the **Update** component.
2. Click Update databases link.

Update information will be displayed in the main window. To details on the update process, click Details. This will display a detailed update task report. The report window may be closed. To do so, click **Close**. The update will continue.

Note that updates are distributed to the local source during the update process, provided that this service is enabled (see 17.3.3 on pg. 229).

17.2. Rolling back to the previous update

Every time you begin updating, Kaspersky Internet Security first creates a backup copy of the current databases and program modules and after this starts downloading updates. This way you can return to using the previous version of databases if an update fails.

The rollback option can be helpful if, for example, if some databases were damaged during the update because of a connection error. You can roll back to the previous databases and try to update it again later.

To rollback to the previous database of known threats:

1. Open application main window and select the **Update** component.
2. Click Rollback to the previous databases.

17.3. Configuring update settings

The Updater settings specify the following parameters:

- The source from which the updates are downloaded and installed (see 17.3.1 on pg. 225)

- The run mode for the updating procedure and the specific elements updated (see 17.3.2 on pg. 227)
- How frequently will the update run if scheduled (cf. Section 6.7, p. 68)
- Which user will the update run as (cf. Section 6.6, p. 67)
- Whether downloaded updates are to be copied to a local directory (cf. Section 17.3.3, p. 229)
- What actions are to be performed after updating is complete (see 17.3.3 on pg. 229)

The following sections examine these aspects in detail.

17.3.1. Selecting an update source

The *update source* is some resource, containing updates for the databases and Kaspersky Internet Security application modules. Update sources can exist as HTTP and FTP servers, local or network folders.

The main update source is *Kaspersky Lab's update servers*. These are special web sites containing available updates for the databases and application modules for all Kaspersky Lab products.

If you cannot access Kaspersky Lab's update servers (for example, you have no Internet connection), you can call the Kaspersky Lab main office at +7 (495) 797-87-00 to request contact information for Kaspersky Lab partners, who can provide zipped updates on floppy disks or CDs.

Warning!

When requesting updates on removable media, please specify whether you want to have the updates for application modules as well.

You can copy the updates from a disk and upload them to a FTP or HTTP site, or save them in a local or network folder.

Select the update source on the **Update Sources** tab (see Figure 83).

By default, the updates are downloaded from Kaspersky Lab's update servers. The list of addresses which this item represents cannot be edited. When updating, Kaspersky Internet Security calls this list, selects the address of the first server, and tries to download files from this server. If updates cannot be downloaded from the first server, the application tries to connect to each of the servers in turn until it is successful. The address of the server from which updates were successfully downloaded is automatically placed at the top of the list, so that next time the application will try to connect to this server first.

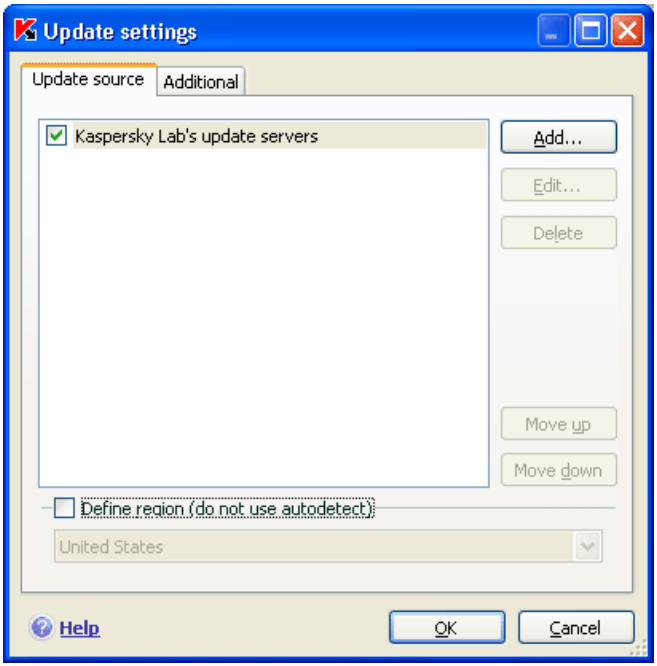


Figure 83. Selecting an update source

To download updates from another FTP or HTTP site:

1. Click **Add.**
2. In the **Select Update Source** dialog box, select the target FTP or HTTP site or specify the IP address, character name, or URL address of this site in the **Source** field. When selecting an ftp site as an update source, authentication settings must be entered in the URL of the server in the format ftp://user:password@server.

Warning!

If a resource located outside the LAN is selected as an update source, you must have an Internet connection to update.

To update from a local folder:

1. Click **Add.**
2. In the **Select Update Source** dialog box, select a folder or specify the full path to this folder in the **Source** field.

Kaspersky Internet Security adds new update sources at the top of the list, and automatically enables the source, by checking the box beside the source name.

If several resources are selected as update sources, the application tries to connect to them one after another, starting from the top of the list, and retrieves the updates from the first available source. You can change the order of sources in the list using the **Move up** and **Move down** buttons.

To edit the list, use the **Add**, **Edit** and **Remove** buttons. The only source you cannot edit or delete is the one labeled Kaspersky Lab's update servers.

If you use Kaspersky Lab's update servers as the update source, you can select the optimal server location for downloading updates. Kaspersky Lab has servers in several countries. Choosing the Kaspersky Lab update server closest to you will save you time and download updates faster.

To choose the closest server, check **Define region (do not use autodetect)** and select the country closest to your current location from the dropdown list. If you check this box, updates will run taking the region selected in the list into account. This checkbox is deselected by default and information about the current region from the operating system registry is used.

17.3.2. Selecting an update method and what to update

When configuring updating settings, it is important to define what will be updated and what update method will be used.

Update objects (see Figure 84) are the components that will be updated:

- Application databases
- Network drivers that enable protection components to intercept network traffic
- Firewall database containing network attack descriptions
- Program modules

Application databases, network drivers and Firewall database are always updated, and the application modules are only updated if the settings are configured for it.

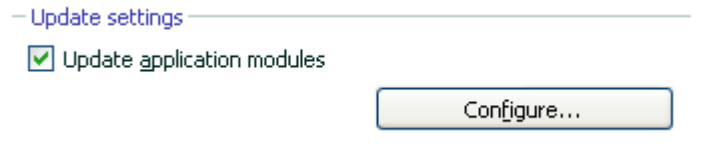


Figure 84. Selecting update objects

If you want to download and install updates for program modules:

open application settings window, select **Update,** and check **Update Application Modules**.

If there are currently program module updates on the update source, a special window, containing the description of all changes in the program modules, will appear on your screen. Basing on this description, you can decide whether the update should be installed.

Update method (see Figure 85) defines how the Updater is started. One of the following modes may be selected under **Run Mode**:

Automatically. Kaspersky Internet Security checks the update source for update packages at specified intervals (see 17.3.1 on pg. 224). When the program detects fresh updates, it downloads them and installs them on the computer. This mode is used by default.

If a network resource is specified as an update source, Kaspersky Internet Security tries to launch updating after a certain amount of time has elapsed as specified in the previous update package. If a local folder is selected as an update source, the application tries to download the updates from the local folder at a frequency specified in the update package that was downloaded during the last updating. This option allows Kaspersky Lab to regulate the updating frequency in case of virus outbreaks and other potentially dangerous situations. Your application will receive the latest updates for application databases and software modules in a timely manner, thus excluding the possibility for malicious software to penetrate your computer.

Figure 85. Selecting an update run mode

- **By schedule**. Updating is scheduled to start at a specified time. By default, scheduled updates will occur daily. To edit the default schedule, click the **Change...** button near the mode title and make the necessary changes in the window that opens (for more details, cf. Section 6.7, p. 68).
- **Manually**. With this option, you start the Updater manually. Kaspersky Internet Security notifies you when it needs to be updated:

17.3.3. Update distribution

If your home computers are connected through a home network, you do not need to download and installed updates on each of them separately, since this would consume more network bandwidth. You can use the update distribution feature, which helps reduce traffic by retrieving updates in the following manner:

1. One of the computers on the network retrieves an application update package from the Kaspersky Lab web servers or from another web resources hosting a current set of updates. The updates retrieved are placed in a public access folder.
2. Other computers on the network access the public access folder to retrieve application updates.

To enable update distribution, select the **Update distribution folder** checkbox on the **Additional** tab (see Figure 86), and in the field below, specify the shared folder where updates retrieved will be placed. You can enter the path manually or selected in the window that opens when you click **Browse**. If the checkbox is selected, updates will automatically be copied to this folder when they are retrieved.

Note that Kaspersky Internet Security 7.0 only retrieves update packages for v. 6.0 applications from the Kaspersky Lab update servers.

If you want other computers on the network to update from the folder that contains updates copied from the Internet, you must take the following steps:

1. Grant public access to this folder.
2. Specify the shared folder as the update source on the network computers in the Updater settings.

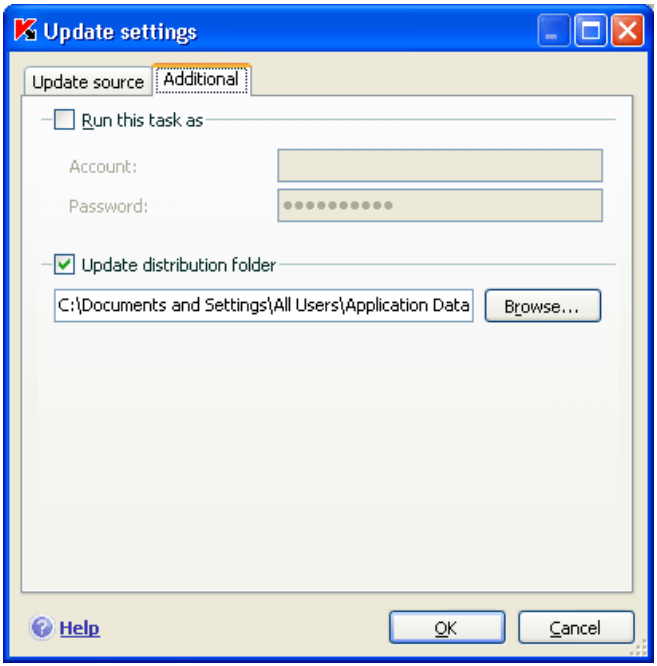


Figure 86. Copy updates tool settings

17.3.4. Actions after updating the program

Every databases update contains new records that protect your computer from the latest threats.

Kaspersky Lab recommends that you scan *quarantined objects* and *startup objects* each time after the database is updated.

Why these objects should be scanned?

The quarantine area contains objects that have been flagged by the program as suspicious or possibly infected (see 19.1 on pg. 235). Using the latest version of the databases, Kaspersky Internet Security may be able to identify the threat and eliminate it.

By default, the application scans quarantined objects after each update. You are also advised to periodically view the quarantined objects because their statuses can change after several scans. Some objects can then be restored to their previous locations, and you will be able to continue working with them.

To disable scans of quarantined objects, uncheck **Rescan Quarantine** in the **Actions after Update** section.

Startup objects are critical for the safety of your computer. If one of them is infected with a malicious application, this could cause an operating system startup failure. Kaspersky Internet Security has a built-in scan task for startup objects (see Chapter 14 on pg. 192). You are advised to set up a schedule for this task so that it is launched automatically after each databases update (cf. Section 6.7, p. 68).

CHAPTER 18. MANAGING KEYS

Kaspersky Internet Security needs a *key file* to operate. You are provided with a key when you buy the program. It gives you the right to use the program from the day you install the key.

Without a key, unless a trial version of the application has been activated, Kaspersky Internet Security will run in one update mode. The program will not download any new updates.

If a trial version of the program has been activated, after the trial period expires, Kaspersky Internet Security will not run.

When a commercial key expires, the program will continue working, except that you will not be able to update application databases. Your computer can continue to be scanned using virus scan tasks and protected using protection components but its databases will be current as of the key expiration date. We cannot guarantee that you will be protected from viruses that surface after your program key expires.

To avoid infecting your computer with new viruses, we recommend extending your Kaspersky Internet Security key. The program will notify you two weeks prior to the expiration of your key, and for the next two weeks it will display this message every time you open it.

Information on the current key is shown under **Activation** (cf. Figure 87) in the application main window. The **Installed Keys** section shows key ID, type (commercial, trial, for beta testing), number of hosts on which this key may be installed, key expiration date and number of days remaining to expiration. Click **View detailed info on keys** to view additional information.

To view the provisions of the application license agreement, click on **View End User License Agreement**. To remove a key from the list, click **Delete key**.

To purchase or renew a key:

1. Purchase a new key by clicking on **Purchase New Key** (application has not been activated) or **Extend Key**. The resulting web page will contain all the information on purchasing a key through the Kaspersky Lab online store or corporate partners.

   If you purchase online, a key file or an activation code will be mailed to you at the address specified in the order form once payment has been made.

2. Install the key by clicking **Install Key** under **Activation** in the Kaspersky Internet Security main window or **Activation** on the application context menu. This will start the activation wizard (cf. Section 3.2.2, p. 36).

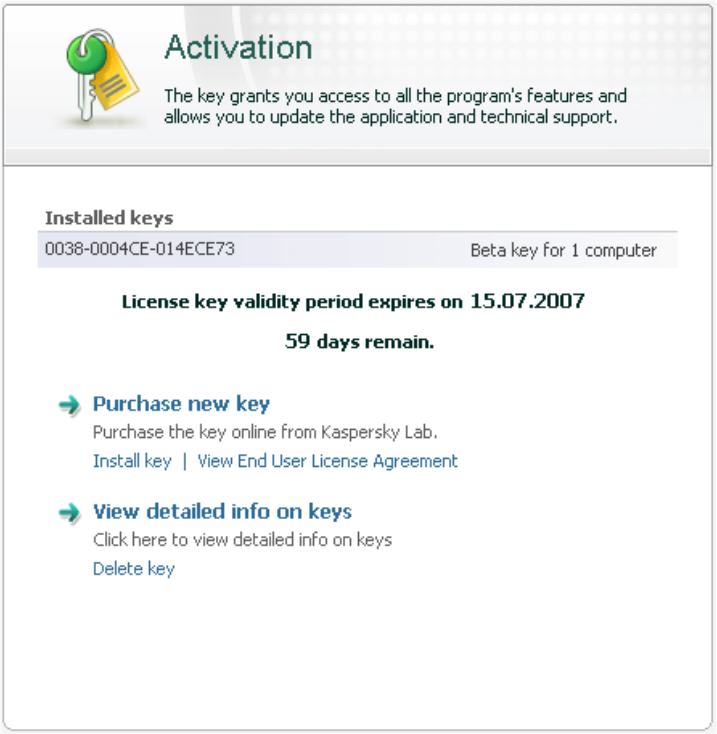

Activation
The key grants you access to all the program's features and allows you to update the application and technical support.
Installed keys
0038-0004CE-014ECE73
Beta key for 1 computer
License key validity period expires on 15.07.2007
59 days remain.
Purchase new key
Purchase the key online from Kaspersky Lab.
Install key | View End User License Agreement
View detailed info on keys
Click here to view detailed info on keys
Delete key

Figure 87. Key Management

Kaspersky Lab regularly has special pricing offers on license extensions for our products. Check for specials on the Kaspersky Lab website in the **Products → Sales and special offers** area.

CHAPTER 19. ADVANCED OPTIONS

Kaspersky Internet Security has other features that expand its functionality.

The program places some objects in special storage areas, in order to ensure maximum protection of data with minimum losses.

- Backup contains copies of objects that Kaspersky Internet Security has changed or deleted (see 19.2 on pg. 238). If any object contained information that was important to you and could not be fully recovered during anti-virus processing, you can always restore the object from its backup copy.
- Quarantine contains potentially infected objects that could not be processed using the current application databases (see 19.1 on pg. 235).

It is recommended that you periodically examine the list of stored objects. Some of them may already be outdated, and some may have been restored.

The advanced options include a number of diverse useful features. For example:

- Technical Support provides comprehensive assistance with Kaspersky Internet Security (cf. Section 19.10, p. 278). Kaspersky provides you with several channels for support, including on-line support, user forum, and Knowledge Base.
- The Notifications feature sets up user notifications about key events for Kaspersky Internet Security (see 19.9.1 on pg. 271). These could be either events of an informative nature, or critical errors that must be eliminated immediately.
- Self-Defense protects the program's own files from being modified or damaged by hackers, blocks remote administration from using the program's features, and restricts other users on your computer from performing certain actions in Kaspersky Internet Security (see 19.9.1.3 on pg. 274). For example, changing the level of protection can significantly influence information security on your computer.
- Application Configuration Management stores application runtime parameters and facilitates replication of such parameters to other computers (cf. Section 19.9.3, p. 276), as well as recovery of default settings (cf. Section 19.9.4, p. 277).

The program also provides detailed reports (see 19.3 on pg. 240) on the operation of all protection components, virus scan tasks, and updates.

Monitored ports can regulate which Kaspersky Internet Security modules control data transferred on select ports (see 19.5 on pg. 262). Configuration of proxy server settings (see 19.7 on pg. 266) provides the application access to the Internet which is critical for certain real-time protection components and updates.

The Rescue Disk can help restore your computer's functionality after an infection (see 19.4 on pg. 259). This is particularly helpful when you cannot boot your computer's operating system after malicious code has damaged system files.

You can also change the appearance of Kaspersky Internet Security and can customize the program interface (see 19.7 on pg. 266).

The following sections discuss these features in more detail.

19.1. Quarantine for potentially infected objects

Quarantine is a special storage area that holds potentially infected objects.

Potentially infected objects are objects that are suspected of being infected with viruses or modifications of them.

Why *potentially infected*? This are several reasons why it is not always possible to determine whether an object is infected:

- *The code of the object scanned resembles a known threat but is partially modified*.

  Application databases contain threats that have already been studied by Kaspersky Lab. If a malicious program is modified by a hacker but these changes have not yet been entered into the databases, Kaspersky Internet Security classifies the object infected with this changed malicious program as being potentially infected, and indicates what threat this infection resembles.

- *The code of the object detected is reminiscent in structure of a malicious program, although nothing similar is recorded in the application databases*.

  It is quite possible that this is a new type of threat, so Kaspersky Internet Security classifies the object as a potentially infected object.

The *heuristic code* analyzer detects potential viruses. This mechanism is fairly effective and very rarely produces false positives.

A potentially infected object can be detected and placed in quarantine by File Anti-Virus, Mail Anti-Virus, Proactive Defense or in the course of a virus scan.

You can place an object in quarantine by clicking Quarantine in the notification that pops up when a potentially infected object is detected.

When you place an object in Quarantine, it is moved, not copied. The object is deleted from the disk or email and is saved in the Quarantine folder. Files in Quarantine are saved in a special format and are not dangerous.

19.1.1. Actions with quarantined objects

The total number of objects in **Quarantine** is displayed in the **Reports and data files** section of the main window. In the right-hand part of the screen there is a special *Quarantine* section that displays:

- the number of potentially infected objects detected during Kaspersky Internet Security operation;
- the current size of Quarantine.

Here you can delete all objects in the quarantine using the Clear link.

To access objects in Quarantine:

Click Quarantine.

You can take the following actions on the **Quarantine** tab (see Figure 88):

- Move a file to Quarantine that you suspect is infected but the program did not detect. To do so, click **Add** and select the file in the standard selection window. It will be added to the list with the status *added by user*.
- Scan and disinfect all potentially infected objects in Quarantine using the current version of application databases by clicking, click **Scan all**.

  After scanning and disinfecting any quarantined object, its status may change to *infected, potentially infected, false positive, OK,* etc.

  The *infected* status means that the object has been identified as infected but it could not be treated. You are advised to delete such objects.

  All objects marked *false positive* can be restored, since their former status as *potentially infected* was not confirmed by the program once scanned again.
- Restore the files to a folder selected by the user or their original folder prior to Quarantine (default). To restore an object, select it from the list and click **Restore**. When restoring objects from archives, email databases, and email format files placed in Quarantine, you must also select the directory to restore them to.

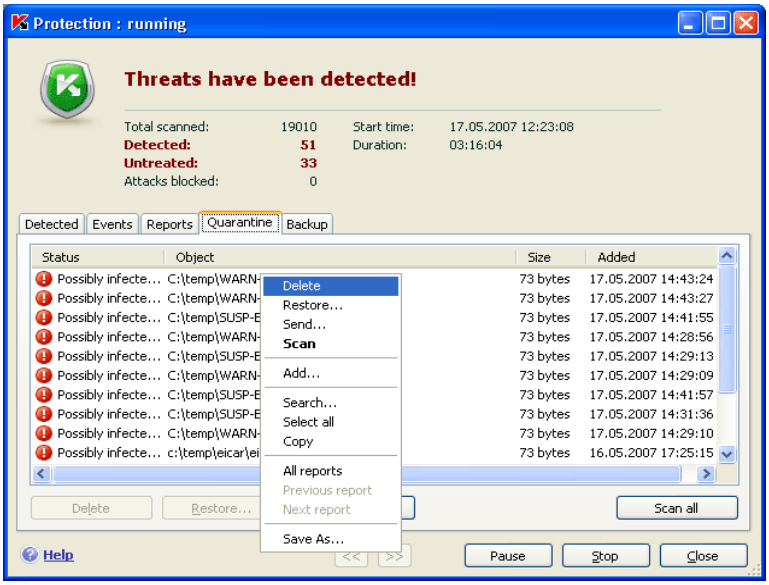


Figure 88. List of quarantined objects

> Tip:
>
> We recommend that you only restore objects with the status *false positive, OK,* and *disinfected*, since restoring other objects could lead to infecting your computer.

- Delete any quarantined object or group of selected objects. Only delete objects that cannot be disinfected. To delete the objects, select them in the list and click **Delete**.

19.1.2. Setting up Quarantine

You can configure the settings for the layout and operation of Quarantine, specifically:

- Set up automatic scans for objects in Quarantine after each application database update (for more details, see 17.3.3 on pg. 229).

> Warning!
>
> The program will not be able to scan quarantined objects immediately after updating the databases if you are accessing the Quarantine area.

- Set the maximum Quarantine storage time.

  The default storage time 30 days, at the end of which objects are deleted. You can change the Quarantine storage time or disable this restriction altogether.

To do so:

1. Open the application settings window and select **Reports and data files**.
2. In the **Quarantine & Backup** section (see Figure 89), enter the length of time after which objects in Quarantine will be automatically deleted. Alternately, uncheck the checkbox to disable automatic deletion.

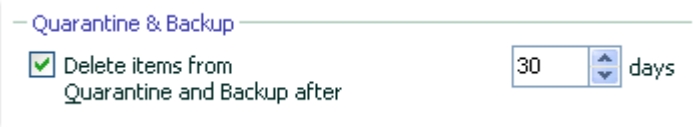


Figure 89. Configuring the Quarantine storage period

19.2. Backup copies of dangerous objects

Sometimes when objects are disinfected their integrity is lost. If a disinfected file contains important information which is partially or fully corrupted, you can attempt to restore the original object from a backup copy.

A **backup copy** is a copy of the original dangerous object that is created before the object is disinfected or deleted. It is saved in Backup.

Backup is a special storage area that contains backup copies of dangerous objects. Files in backup are saved in a special format and are not dangerous.

19.2.1. Actions with backup copies

The total number of backup copies of objects placed in the repository is displayed in the **Reports and data files** section of the main window. In the right-hand part of the screen there is a special **Backup** section that displays:

- the number of backup copies of objects created by Kaspersky Internet Security
- the current size of Backup.

Here you can delete all copies in backup using the Clear link.

To access dangerous object copies:

Click Backup.

A list of backup copies is displayed in the **Backup** tab (see Figure 90). The following information is displayed for each copy: the original full path and filename of the object, the status of the object assigned by the scan, and its size.

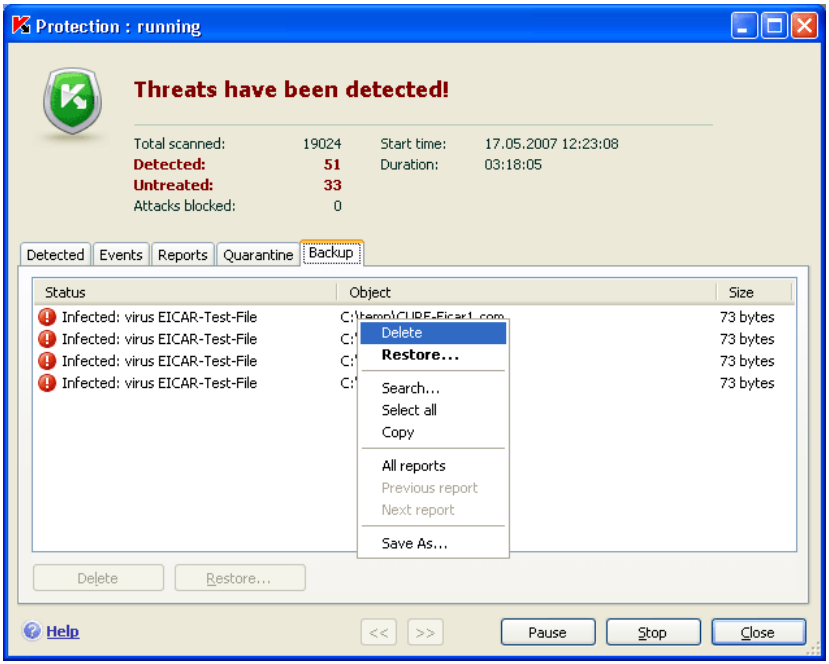


Figure 90. Backup copies of deleted or disinfected objects

You can restore selected copies using the **Restore** button. The object is restored from Backup with the same name that it had prior to disinfection.

If there is an object in the original location with that name (this is possible if a copy was made of the object being restored prior to disinfection), a warning will be given. You can change the location of the restored object or rename it.

You are advised to scan backup objects for viruses immediately after restoring them. It is possible that with updated application databases you will be able to disinfect it without losing file integrity.

You are advised **not** to restore backup copies of objects unless absolutely necessary. This could lead to an infection on your computer.

You are advised to periodically examine the Backup area, and empty it using the **Delete** button. You can also set up the program so that it automatically deletes the oldest copies from Backup (see 19.2.2 on pg. 240).

19.2.2. Configuring Backup settings

You can define the maximum time that backup copes remain in the Backup area.

The default Backup storage time is 30 days, at the end of which backup copies are deleted. You can change the storage time or remove this restriction altogether. To do so:

1. Open the application settings window and select **Reports and Data Files**.
2. Set the duration for storing backup copies in the repository in the **Quarantine and Backup** section (see Figure 89) on the right-hand part of the screen. Alternately, uncheck the checkbox to disable automatic deletion.

19.3. Reports

Kaspersky Internet Security component actions, virus task scans and updates are all recorded in reports.

The total number of reports created by the program at a given point in time and their total size in bites is displayed in **Reports and data files** section of the main program window. This information is displayed in the **Report** *files* section.

To view reports:

Click Reports.

The Reports tab lists the latest reports on all components and virus scan and update tasks run during the current session of Kaspersky Internet Security. The status is listed beside each component or task, for example, *running, paused,* or *complete*. If you want to view the full history of report creation for the current session of the program, check **Show report history**.

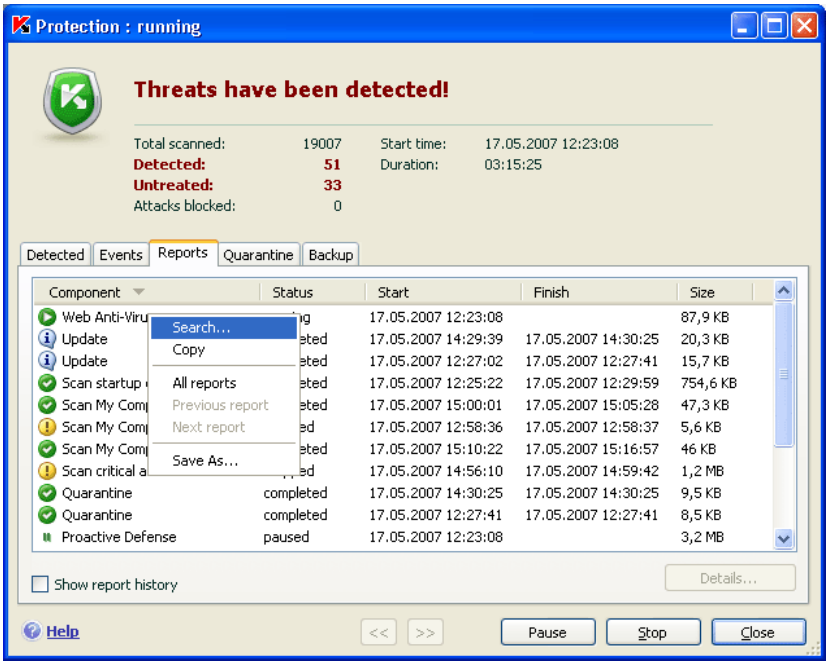


Figure 91. Reports on component operation

To review all the events reported for a component or task:

Select the name of the component or task on the **Reports** tab and click the **Details** button.

A window will then open that contains detailed information on the performance of the selected component or task. The resulting performance statistics are displayed in the upper part of the window, and detailed information is provided on the tabs. Depending on the component or task, the tabs can vary:

- The **Detected** tab contains a list of dangerous objects detected by a component or a virus scan task performed.
- The **Events** tab displays component or task events.
- The **Statistics** tab contains detailed statistics for all scanned objects.
- The **Settings** tab displays settings used by protection components, virus scans, or application database updates.
- The **Registry** tabs are only in the Proactive Defense report and contain information about all attempts to modify the operating system registry.

- The **Phishing-sites**, **Dial attempts**, **Data transfer attempts**, and **Dial Attempts** tabs are only in the Privacy Control report. They contain information on all the phishing attacks detected and all the popup windows, banner ads, and autodial attempts blocked during that session of the program.
- The **Network Attacks**, **Blocked access list**, **Application activity**, **Packet Filtering, Popups** and **Banners** tabs are only be found in the Firewall report. They include information on all attempted network attacks on your computer, hosts banned after attacks, descriptions of application network activity that matches existing activity rules, and all data packets that match Firewall packet filtering rules.
- The **Established Connections**, **Open Ports**, and **Traffic** tabs also cover network activity on your computer, displaying currently established connections, open ports, and the amount of network traffic your computer has sent and received.

You can export the entire report as a text file. This feature is useful when an error has occurred which you cannot eliminate on your own, and you need assistance from Technical Support. If this happens, the report must be sent as a .txt file to Technical Support to enable our specialists can study the problem in detail and solve it as soon as possible.

To export a report as a text file:

Click **Actions→Save as** and specify where you want to save the report file.

After you are done working with the report, click **Close**.

There is an Actions button on all the tabs (except **Settings** and **Statistics**) which you can use to define responses to objects on the list. When you click it, a context-sensitive menu opens with a selection of these menu items (the menu differs depending on the component – all the possible options are listed below):

Disinfect – attempts to disinfect a dangerous object. If the object is not successfully disinfected, you can leave it on this list to scan later with updated application databases or delete it. You can apply this action to a single object on the list or to several selected objects.

Delete - delete dangerous object from computer.

Delete from list – remove the record on the object detected from the report.

Add to trusted zone – excludes the object from protection. A window will open with an exclusion rule for the object.

Go to File – opens the folder where the object is located in Microsoft Windows Explorer.

Neutralize All – neutralizes all objects on the list. Kaspersky Internet Security will attempt to process the objects using application databases.

Discard All – clears the report on detected objects. When you use this function, all detected dangerous objects remain on your computer.

View on www.viruslist.com – goes to a description of the object in the Virus Encyclopedia on the Kaspersky Lab website.

Search – enter search terms for objects on the list by name or status.

Save as - save report as a text file.

In addition, you can sort the information displayed in the window in ascending and descending order for each of the columns, by clicking on the column head.

To process dangerous objects detected by Kaspersky Internet Security, press the **Neutralize** button (for one object or a group of selected objects) or **Neutralize all** (to process all the objects on the list). After each object is processed, a message will appear on screen. Here you will have to decide what to do with them next.

If you check **Apply to all** in the notification window, the action selected will be applied to all objects with the status selected from the list before beginning processing.

19.3.1. Configuring report settings

To configure settings for creating and saving reports:

1. Open the application settings window and select **Reports and data files**.
2. Edit the settings under **Reports** (see Figure 92) as follows:
   - Allow or disable logging informative events. These events are generally not important for security. To log events, check **Log non-critical events**;
   - Choose only to report events that have occurred since the last time the task was run. This saves disk space by reducing the report size. If **Keep only recent events** is checked, the report will begin from scratch every time you restart the task. However, only non-critical information will be overwritten.
   - Set the storage time for reports. By default, the report storage time is 30 days, at the end of which the reports are deleted. You can change the maximum storage time or remove this restriction altogether.

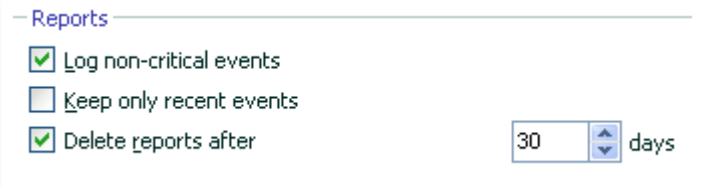


Figure 92. Configuring report settings

19.3.2. The *Detected* tab

This tab (see Figure 93) contains a list of dangerous objects detected by Kaspersky Internet Security. The full filename and path is shown for each object, with the status assigned to it by the program when it was scanned or processed.

If you want the list to contain both dangerous objects and successfully neutralized objects, check **Show neutralized objects**.

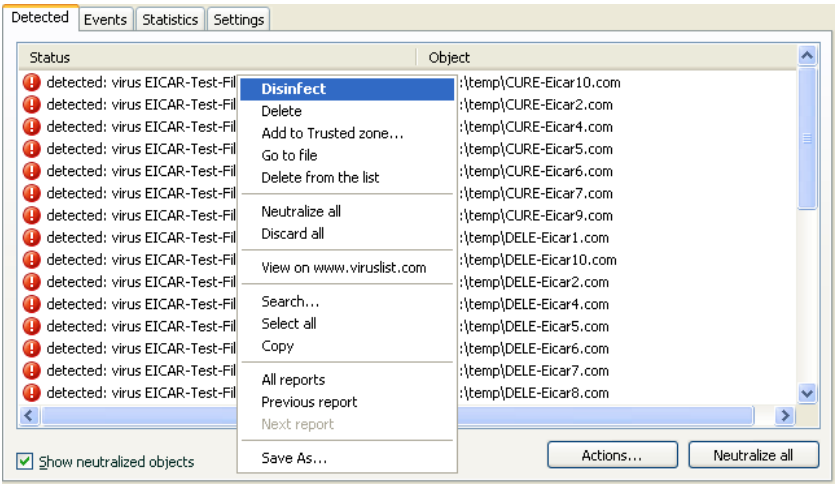


Figure 93. List of detected dangerous objects

Dangerous objects detected by Kaspersky Internet Security are processed using the **Neutralize** button (for one object or a group of selected objects) or **Neutralize all** (to process all the objects on the list). When each object is processed, a notification will be displayed on the screen, where you must decide what actions will be taken next.

If you check **Apply to all** in the notification window, the selected action will be applied to all objects with the same status selected from the list before beginning processing.

19.3.3. The *Events* tab

This tab (see Figure 94) provides you with a complete list of all the important events in component operation, virus scans, and updates that were not overridden by an activity control rule (see 10.1 on pg. 120).

These events can be:

Critical events are events of a critical importance that point to problems in program operation or vulnerabilities on your computer. For example, *virus detected*, *error in operation*.

Important events are events that must be investigated, since they reflect important situations in the operation of the program. For example, *stopped.*

Informative messages are reference-type messages which generally do not contain important information. For example, *OK, not processed*. These events are only reflected in the event log if **Show all events** is checked.

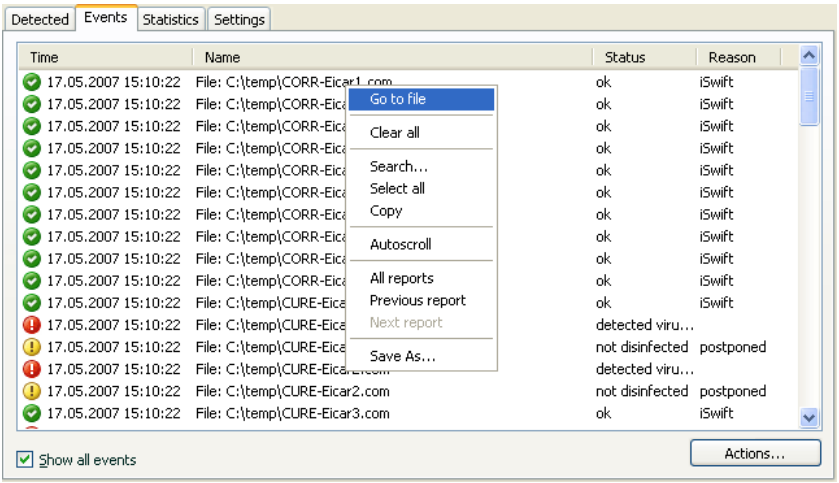


Figure 94. Events that take place in component operation

The format for displaying events in the event log may vary with the component or task. The following information is given for update tasks:

- Event name
- Name of the object involved in the event
- Time when the event occurred
- Size of the file loaded

For virus scan tasks, the event log contains the name of the object scanned and the status assigned to it by the scan/processing.

You can also train Anti-Spam while viewing the report using the special context menu. To do so, select the name of the email and open the context menu by right-clicking and select **Mark as Spam**, if the email is spam, or **Mark as Not Spam**, if the selected email is accepted email. In addition, based on the information obtained by analyzing the email, you can add to the Anti-Spam white and black lists. To do so, use the corresponding items on the context menu.

19.3.4. The Statistics tab

This tab (see Figure 95) provides you with detailed statistics on components and virus scan tasks. Here you can learn:

- How many objects were scanned for dangerous traits in this session of a component, or after a task is completed. The number of scanned archives, compressed files, and password protected and corrupted objects is displayed.
- How many dangerous objects were detected, not disinfected, deleted, or placed in Quarantine.

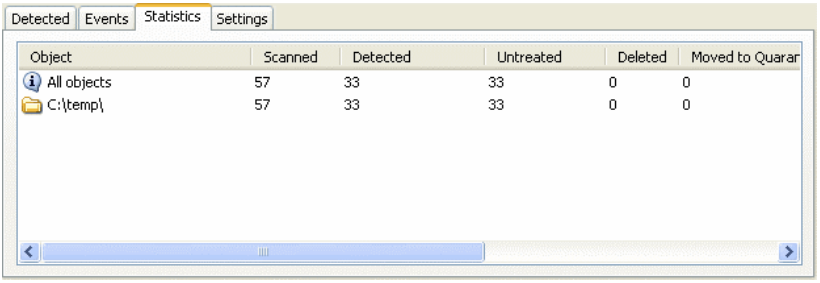


Figure 95. Component statistics

19.3.5. The *Settings* tab

The **Settings** tab (see Figure 96) displays a complete overview of the settings for components, virus scans and program updates. You can find out the current security level for a component or virus scan, what actions are being taken with dangerous objects, or what settings are being used for program updates. Use the Change settings link to configure the component.

You can configure advanced settings for virus scans:

- Establish the priority of scan tasks used if the processor is heavily loaded. The **Concede resources to other applications** box is checked by default. With this feature, the program tracks the load on the processor and disk subsystems for the activity of other applications. If the load on the processor increases significantly and prevents the user's applications from operating normally, the program reduces scanning activity. This increases scan time and frees up resources for the user's applications.

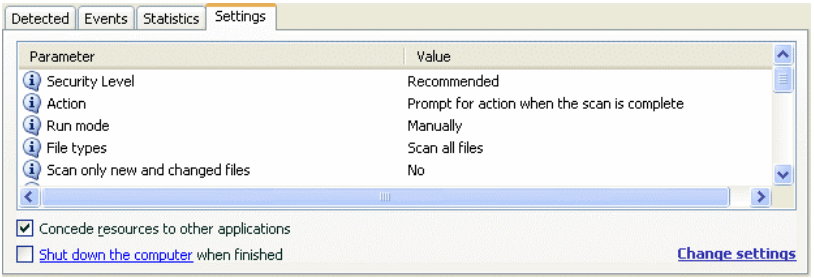


Figure 96. Component settings

- Set the computer's mode of operation for after a virus scan is complete. You can configure the computer to shut down, restart, or go into standby or sleep mode. To select an option, left-click on the hyperlink until it displays the option you need.

  You may need this feature if, for example, you start a virus scan at the end of the work day and do not want to wait for it to finish.

  However, to use this feature, you must take the following additional steps: before launching the scan, you must disable password requests for objects being scanned, if enabled, and enable automatic processing of dangerous objects, to disable the program's interactive features.

19.3.6. The *Registry* tab

The program records operations with registry keys that have been attempted since the program was started on the **Registry** tab (see Figure 97), unless forbidden by a rule (see 10.3.2 on pg. 131).

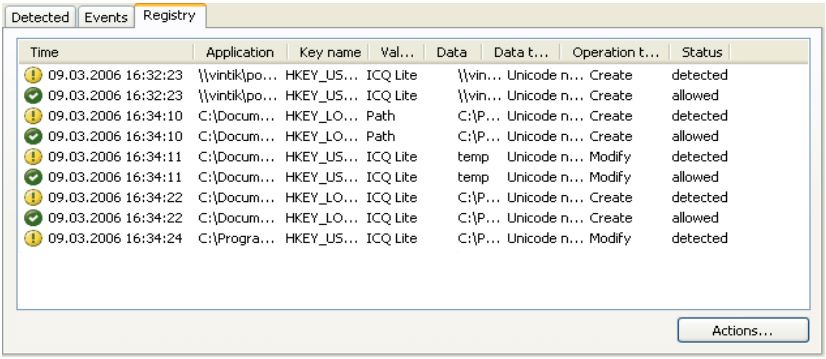

Detected
Events
Registry
Time
Application
Key name
Val...
Data
Data t...
Operation t...
Status
09.03.2006 16:32:23 \\vintik\po... HKEY_US... ICQ Lite \\vin... Unicode n... Create detected
09.03.2006 16:32:23 \\vintik\po... HKEY_US... ICQ Lite \\vin... Unicode n... Create allowed
09.03.2006 16:34:10 C:\Docum... HKEY_LO... Path C:\P... Unicode n... Create detected
09.03.2006 16:34:10 C:\Docum... HKEY_LO... Path C:\P... Unicode n... Create allowed
09.03.2006 16:34:11 C:\Docum... HKEY_US... ICQ Lite temp Unicode n... Modify detected
09.03.2006 16:34:11 C:\Docum... HKEY_US... ICQ Lite temp Unicode n... Modify allowed
09.03.2006 16:34:22 C:\Docum... HKEY_LO... ICQ Lite C:\P... Unicode n... Create detected
09.03.2006 16:34:22 C:\Docum... HKEY_LO... ICQ Lite C:\P... Unicode n... Create allowed
09.03.2006 16:34:24 C:\Progra... HKEY_US... ICQ Lite C:\P... Unicode n... Modify detected
Actions...

Figure 97. Read and modify system registry events

The tab lists the full name of the key, its value, the data type, and information about the operation that has taken place: what action was attempted, at what time, and whether it was allowed.

19.3.7. The Privacy Control tab

This Privacy Control report tab displays all attempts to gain access to your confidential data and attempts to transmit it. The report indicates what program module attempted to transmit the data, which the event was logged, and the action that the program took.

If you want to delete the information cited in the report, click **Actions →Clear all**.

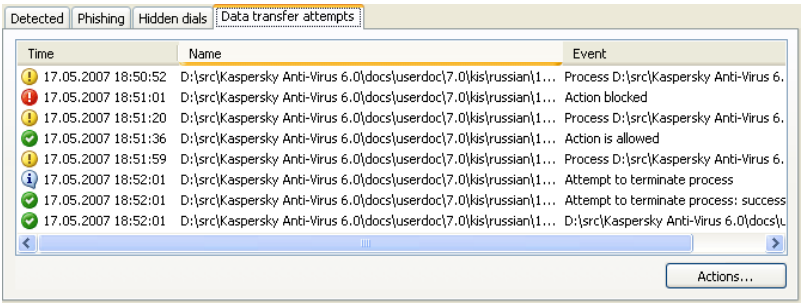

Detected
Phishing
Hidden dials
Data transfer attempts
Time
Name
Event
17.05.2007 18:50:52 D:\src\Kaspersky Anti-Virus 6.0\docs\userdoc\7.0\kis\russian\1... Process D:\src\Kaspersky Anti-Virus 6.
17.05.2007 18:51:01 D:\src\Kaspersky Anti-Virus 6.0\docs\userdoc\7.0\kis\russian\1... Action blocked
17.05.2007 18:51:20 D:\src\Kaspersky Anti-Virus 6.0\docs\userdoc\7.0\kis\russian\1... Process D:\src\Kaspersky Anti-Virus 6.
17.05.2007 18:51:36 D:\src\Kaspersky Anti-Virus 6.0\docs\userdoc\7.0\kis\russian\1... Action is allowed
17.05.2007 18:51:59 D:\src\Kaspersky Anti-Virus 6.0\docs\userdoc\7.0\kis\russian\1... Process D:\src\Kaspersky Anti-Virus 6.
17.05.2007 18:52:01 D:\src\Kaspersky Anti-Virus 6.0\docs\userdoc\7.0\kis\russian\1... Attempt to terminate process
17.05.2007 18:52:01 D:\src\Kaspersky Anti-Virus 6.0\docs\userdoc\7.0\kis\russian\1... Attempt to terminate process: success
17.05.2007 18:52:01 D:\src\Kaspersky Anti-Virus 6.0\docs\userdoc\7.0\kis\russian\1... D:\src\Kaspersky Anti-Virus 6.0\docs\u
Actions...

Figure 98. The Privacy Control tab

19.3.8. The *Phishing* tab

This report tab (see Figure 99) displays all phishing attempts carried out during the current Kaspersky Internet Security session. The report lists a link to the phishing site detected in the email (or other source), the date and time that the attack was detected, and the attack status (whether it was blocked).

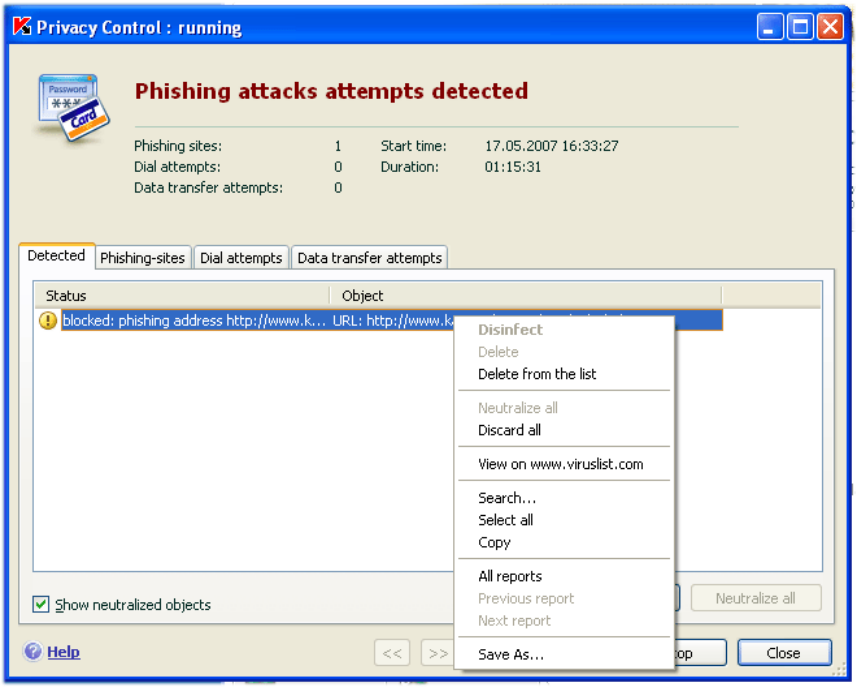


Figure 99. Blocked phishing attacks

19.3.9. The Hidden dials tab

This tab (see Figure 100) displays all secret dialer attempts to connect to paid websites. Such attempts are generally carried out by malicious programs installed on your computer.

In the report, you can view what program attempted to dial the number to connect to the Internet, and whether the attempt was blocked or allowed.

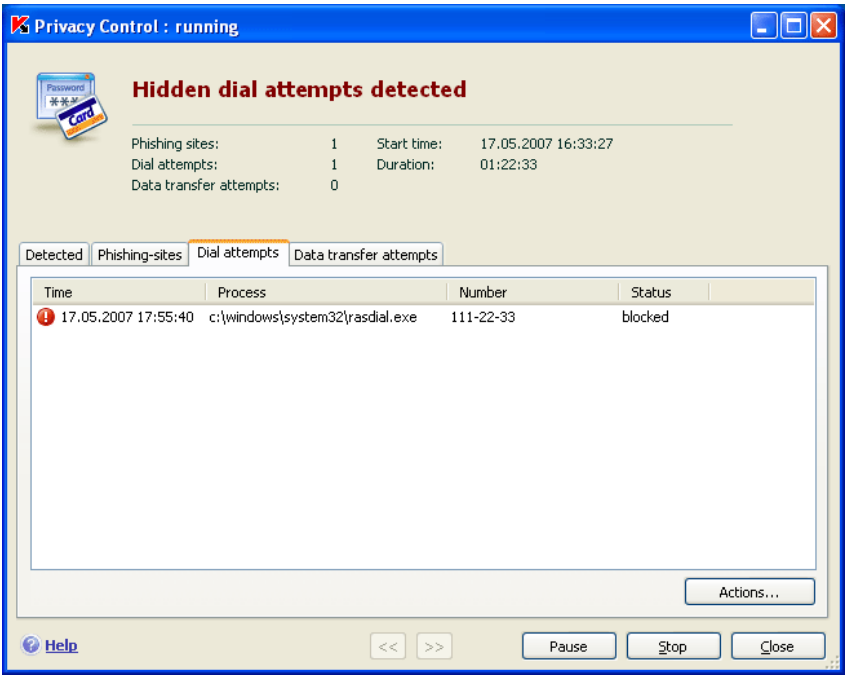


Figure 100. Dial attempt list

19.3.10. The Network attacks tab

This tab (see Figure 101) displays a brief overview of network attacks on your computer. This information is recorded if the Intrusion Detection System is enabled, which monitors all attempts to attack your computer.

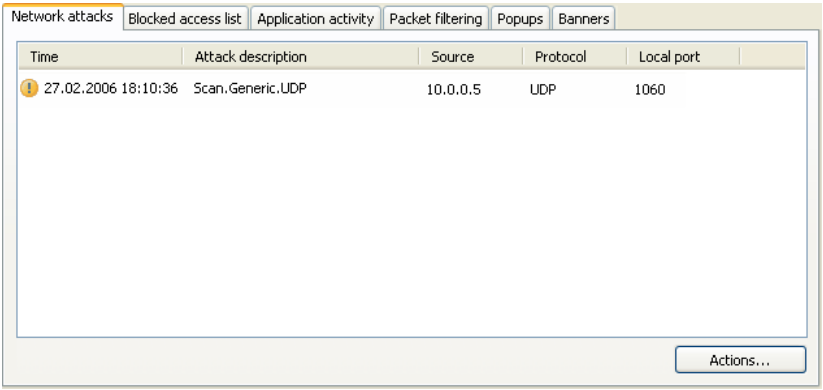


Figure 101. List of blocked network attacks

The **Network Attacks** tab lists the following information on attacks:

- Source of the attack. This could be an IP address, host, etc.
- Local port on which the attack on the computer was attempted.
- Brief description of the attack.
- The time when the attack was attempted.

19.3.11. The Blocked Access Lists tab

All hosts which have been blocked after an attack was detected by the Intrusion Detection System are listed on this report tab (see Figure 102).

The name of each host and the time that it was blocked are shown. You can unblock a host on this tab. To do so, select the host on the list and click the **Actions** → **Unblock** button.

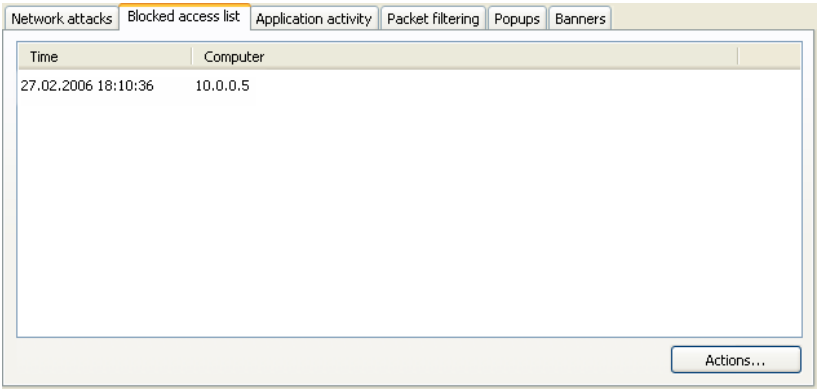


Figure 102. Blocked host list

19.3.12. The Application activity tab

All applications whose activity matches application rules and has been recorded by the *Filtration System* during the current Firewall session, are listed on the **Application Activity** tab (cf. Figure 99).

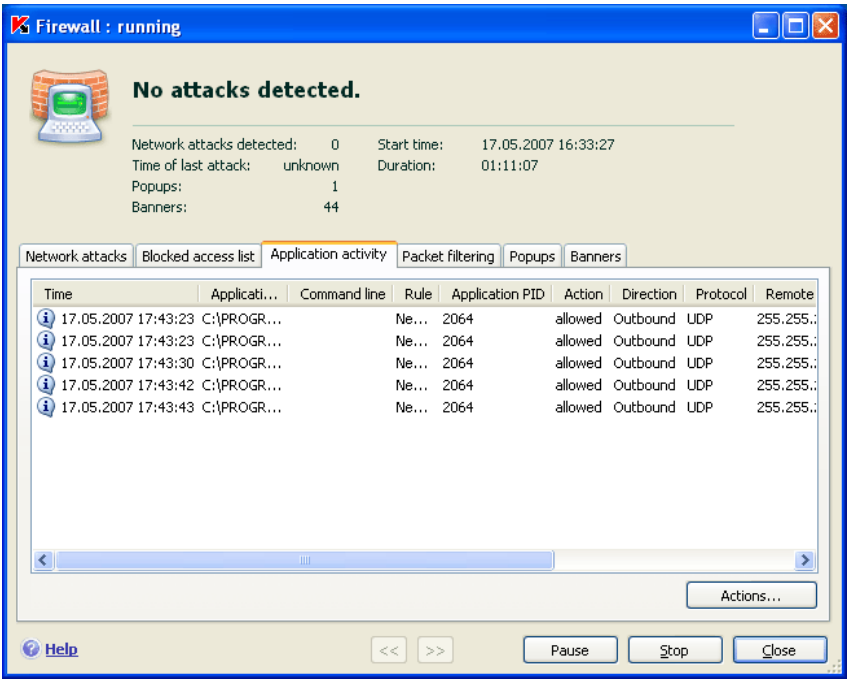


Figure 103. Monitored application activity

Activity is only recorded if **Log event** is checked in the rule. It is deselected by default in application rules included with Kaspersky Internet Security.

This tab displays the basic properties of each application (name, PID, rule name) and a brief summary of its activity (protocol, packet direction, etc.). Information is also listed about whether the application's activity is blocked.

19.3.13. The Packet filtering tab

The **Packet filtering** tab contains information about sending and receiving packets that match filtration rules and were logged during the current Firewall session (see Figure 104).

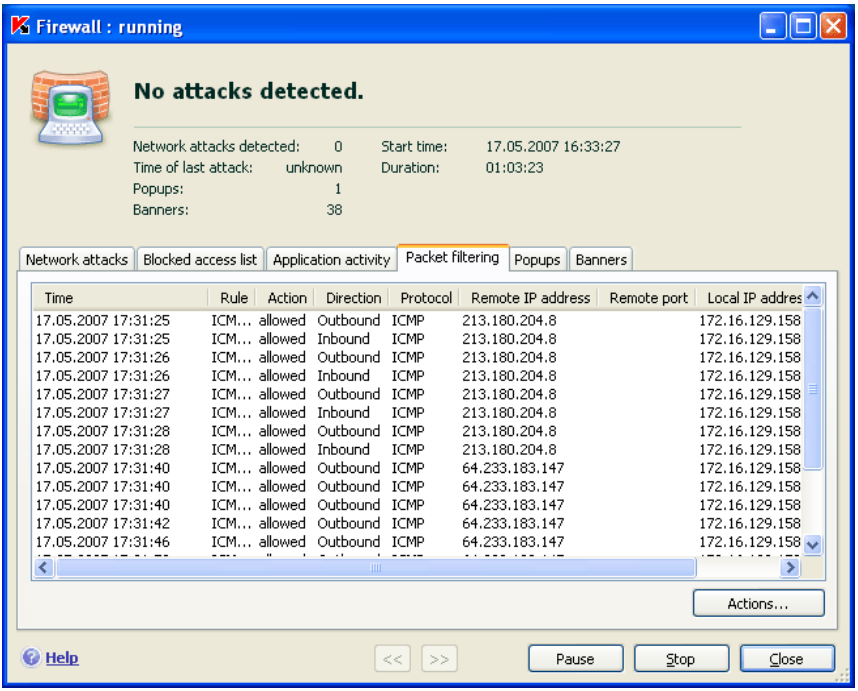

Firewall : running
No attacks detected.
Network attacks detected: 0
Time of last attack: unknown
Popups: 1
Banners: 38
Start time: 17.05.2007 16:33:27
Duration: 01:03:23
Network attacks
Blocked access list
Application activity
Packet filtering
Popups
Banners
Time Rule Action Direction Protocol Remote IP address Remote port Local IP addres
17.05.2007 17:31:25 ICM... allowed Outbound ICMP 213.180.204.8 172.16.129.158
17.05.2007 17:31:25 ICM... allowed Inbound ICMP 213.180.204.8 172.16.129.158
17.05.2007 17:31:26 ICM... allowed Outbound ICMP 213.180.204.8 172.16.129.158
17.05.2007 17:31:26 ICM... allowed Inbound ICMP 213.180.204.8 172.16.129.158
17.05.2007 17:31:27 ICM... allowed Outbound ICMP 213.180.204.8 172.16.129.158
17.05.2007 17:31:27 ICM... allowed Inbound ICMP 213.180.204.8 172.16.129.158
17.05.2007 17:31:28 ICM... allowed Outbound ICMP 213.180.204.8 172.16.129.158
17.05.2007 17:31:28 ICM... allowed Inbound ICMP 213.180.204.8 172.16.129.158
17.05.2007 17:31:40 ICM... allowed Outbound ICMP 64.233.183.147 172.16.129.158
17.05.2007 17:31:40 ICM... allowed Outbound ICMP 64.233.183.147 172.16.129.158
17.05.2007 17:31:40 ICM... allowed Outbound ICMP 64.233.183.147 172.16.129.158
17.05.2007 17:31:42 ICM... allowed Outbound ICMP 64.233.183.147 172.16.129.158
17.05.2007 17:31:46 ICM... allowed Outbound ICMP 64.233.183.147 172.16.129.158
Actions...
Help
<< >>
Pause
Stop
Close

Figure 104. Monitored data packets

Activity is only recorded if **Log event** is checked in the rule. It is unchecked by default in the packet filtering rules included with Kaspersky Internet Security.

The outcome of filtration (whether the packet was blocked), direction of the packet, the protocol, and other network connection settings for sending and receiving packets are indicated for each packet.

19.3.14. Popups Tab

This report tab shows the URLs of all popups blocked by Anti-Publicity (cf. Figure 105). These windows normally open from web sites on the Internet.

For each popup, the URL address and the date an time it was blocked are recorded.

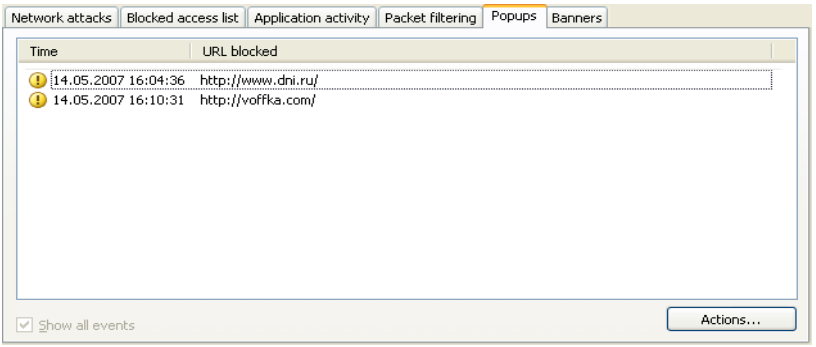


Figure 105. List of Blocked Popups

19.3.15. Banners Tab

This Firewall report tab (cf. Figure 106) lists the URLs of banners blocked by *Anti-Banner*. Each banner is described by its URL and zone status: allowed or blocked.

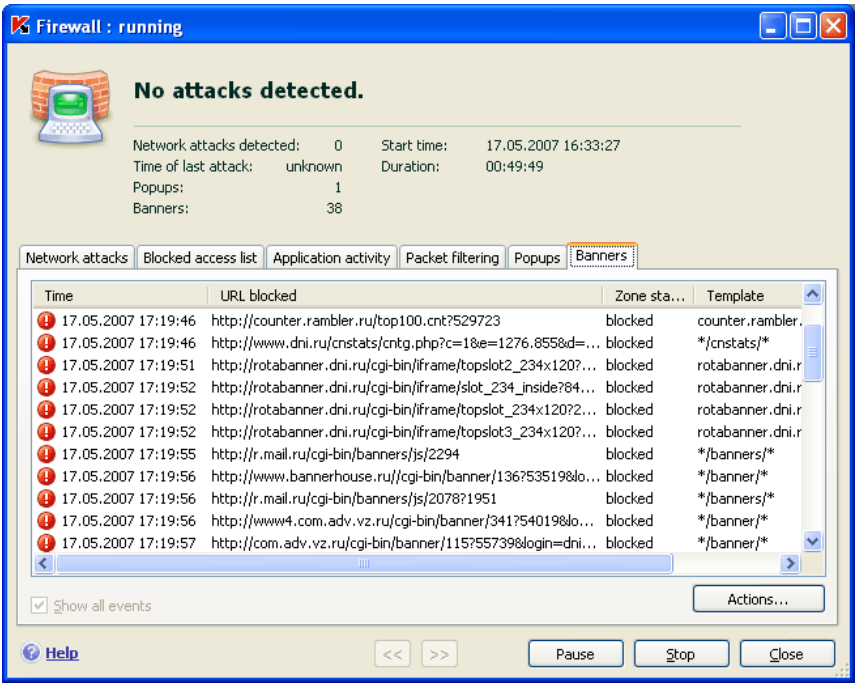


Figure 106. List of Blocked Banners

Any blocked banners may be allowed by selecting the desired object from the displayed list and clicking **Actions** → Allow.

19.3.16. The Established connections tab

All active network connections established on your computer at present are listed on the **Established connections** tab (see Figure 107). Here you will find the name of the application that initiated the connection, the protocol used, the direction of the connection (inbound or outbound), and connection settings (local and remote ports and IP addresses). You can also see how long a connection has been active and the volume of data sent and received. You can create or delete rules for connection. To do so, use the appropriate options on the context menu.

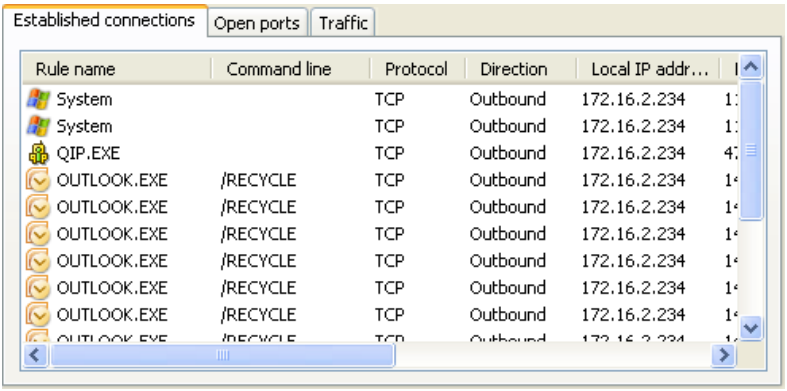


Figure 107. List of established connections

19.3.17. The Open ports tab

All ports currently open on your computer for network connections are listed on the **Open ports** tab (see Figure 108). It lists the port number, data transfer protocol, name of the application that uses the port, and how long the port has been open for each port.

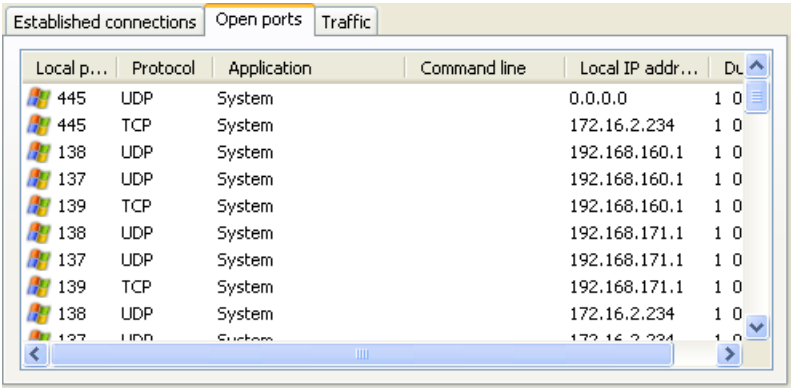


Figure 108. List of ports open on a computer

This information may be useful during virus outbreaks and network attacks if you know exactly which port is vulnerable. You can find out whether that port is open on your computer and take the necessary steps to protect your computer (for example, enabling Intrusion Detection System, closing the vulnerable port, or creating a rule for it).

19.3.18. The *Traffic* tab

This tab (see Figure 109) holds information on all the inbound and outbound connections established between your computer and other computers, including web servers, email servers, etc. The following information is given for every connection: name and IP address of the host that the connection is with, and the amount of traffic sent and received.

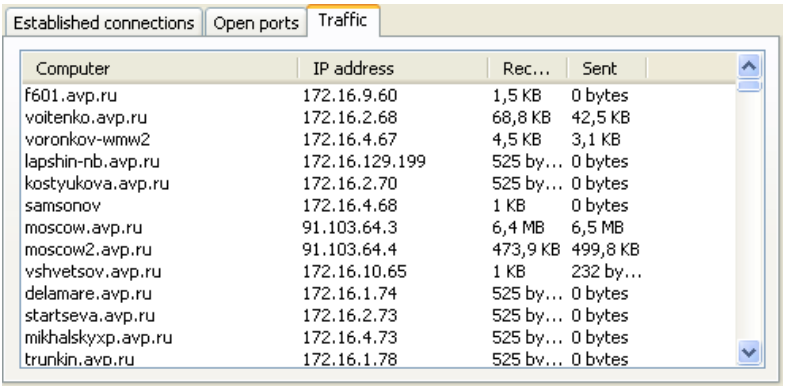

Established connections
Open ports
Traffic
Computer
IP address
Rec...
Sent
f601.avp.ru 172.16.9.60 1,5 KB 0 bytes
voitenko.avp.ru 172.16.2.68 68,8 KB 42,5 KB
voronkov-wmw2 172.16.4.67 4,5 KB 3,1 KB
lapshin-nb.avp.ru 172.16.129.199 525 by... 0 bytes
kostyukova.avp.ru 172.16.2.70 525 by... 0 bytes
samsonov 172.16.4.68 1 KB 0 bytes
moscow.avp.ru 91.103.64.3 6,4 MB 6,5 MB
moscow2.avp.ru 91.103.64.4 473,9 KB 499,8 KB
vshvetsov.avp.ru 172.16.10.65 1 KB 232 by...
delamare.avp.ru 172.16.1.74 525 by... 0 bytes
startseva.avp.ru 172.16.2.73 525 by... 0 bytes
mikhalskyxp.avp.ru 172.16.4.73 525 by... 0 bytes
trunkin.avp.ru 172.16.1.78 525 by... 0 bytes

Figure 109. Traffic on established network connections

19.4. Rescue Disk

Kaspersky Internet Security has a tool for creating a rescue disk.

The rescue disk is designed to restore system functionality after a virus attack that has damaged system files and made the operating system impossible to start. This disk includes:

- Microsoft Windows XP Service Pack 2 system files
- A set of operating system diagnostic utilities
- Kaspersky Internet Security program files
- Files containing application databases.

To create a rescue disk:

1. Open the application main window and select **Scan**.
2. Click the Create Rescue Disk to proceed to disk creation.

A Rescue Disk is designed for the computer that it was created on. Using it on other computers could lead to unforeseen consequences, since it contains information on the parameters of a specific computer (for example, information on boot sectors).

You can only create a rescue disk under Microsoft Windows XP or Microsoft Windows Vista. The rescue disk feature is not available under other supported operating systems, including Microsoft Windows XP Professional x64 Edition and Microsoft Windows Vista x64.

19.4.1. Creating a rescue disk

Warning! You will need the Microsoft Windows XP Service Pack 2 installation disk to create a rescue disk.

You need the program **PE Builder** to create the Rescue Disk.

You must install PE Builder on your computer beforehand to create disk with it.

A special Wizard walks you through the creation of a rescue disk. It consists of a series of windows/steps which you can navigate using the **Back** and **Next** buttons. You can complete the Wizard by clicking **Finished**. The **Cancel** button will stop the Wizard at any point.

Step 1. Getting ready to write the disk

To create a rescue disk, specify the path to the following folders:

- PE Builder program folder
- Folder where rescue disk files will be saved before burning the CD/DVD
- If you are not creating a disk for the first time, this folder will already contain a set of files made the last time. To use files saved previously, check the corresponding box.

  Please note that an earlier version of rescue disk files contains an old version of application databases. To optimize virus scans and system recovery, it is recommended that databases be updated and a new rescue disk created.

- The Microsoft Windows XP Service Pack 2 installation CD

After entering the paths to the folders required, click **Next**. PE Builder will start up and the rescue disk creation process will begin. Wait until the process is complete. This could take several minutes.

Step 2. Creating an .iso file

After PE Builder has completed creating the rescue disk files, a **Create .iso file** window will open.

The .iso file is a CD image of the disk, saved as an archive. The majority of CD burning programs correctly recognize .iso files (Nero, for example).

If this is not the first time that you have created a rescue disk, you can select the .iso file from the previous disk. To do so, select **Existing .iso file**.

Step 3. Burning the disk

This Wizard window will ask you to choose whether to burn the rescue disk files to CD now or later.

If you chose to burn the disk right away, specify whether you want to format the CD before burning. To do so, check the corresponding box. You only have this option if you are using a CD-RW.

The CD will start burning when you click the **Next** button. Wait until the process is complete. This could take several minutes.

Step 4. Finishing the rescue disk

This Wizard window informs you that you have successfully created a rescue disk.

19.4.2. Using the rescue disk

Note that Kaspersky Internet Security only works in system rescue mode if the main window is opened. When you close the main window, the program will close.

Bart PE, the default program, does not support .chm files or Internet browsers, so you will not be able to view Kaspersky Internet Security Help or links in the program interface while in Rescue Mode.

If a situation arises when a virus attack makes it impossible to load the operating system, take the following steps:

1. Create a rescue disk by using Kaspersky Internet Security on an uninfected computer.

2. Insert the rescue disk in the disk drive of the infected computer and restart. Microsoft Windows XP SP2 will start with the Bart PE interface. Bart PE has built-in network support for using your LAN. When the program starts, it will ask you if you want to enable it. You should enable network support if you plan to update application databases from the LAN before scanning your computer. If you do not need to update, cancel network support.

3. To open Kaspersky Internet Security, click **Start→Programs→Kaspersky Internet Security 7.0 →Start**.

   The Kaspersky Internet Security main window will open. In system rescue mode, you can only access virus scans and application database updates from the LAN (if you have enabled network support in Bart PE).

4. Start the virus scan.

Note that application databases from the date that the rescue disk is created are used by default. For this reason, we recommend updating the databases before starting the scan.

It should also be noted that the application will only use the updated application databases during the current session with the rescue disk, prior to restarting your computer.

Warning!

If infected or potentially infected objects were detected when you scanned the computer, and they were processed and then moved to Quarantine or Backup Storage, we recommend completing processing those objects during the current session with a rescue disk.

Otherwise, these objects will be lost when you restart your computer.

19.5. Creating a monitored port list

Components such as Mail Anti-Virus, Web Anti-Virus, Privacy Control, and Anti-Spam monitor data streams that are transmitted using certain protocols and pass through certain open ports on your computer. Thus, for example, Mail Anti-Virus analyzes information transferred using SMTP protocol, and Web Anti-Virus analyzes information transferred using HTTP.

The standard list of ports that are usually used for transmitting email and HTTP traffic is included in the program package. You can add a new port or disable

monitoring for a certain port, thereby disabling dangerous object detection for traffic passing through that port.

To edit the monitored port list, take the following steps:

1. Open the application settings window and select **Traffic Monitoring**.
2. Click **Port Settings**.
3. Update the list of monitored ports in the **Port Settings** dialog (cf. Figure 110).

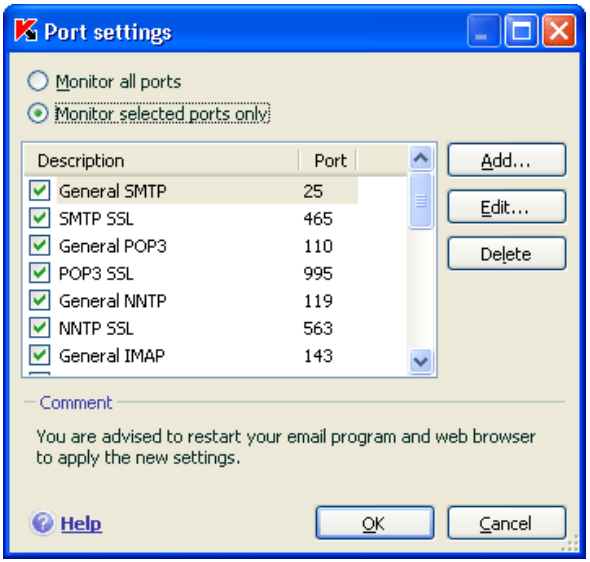


Figure 110. List of monitored ports

This window provides a list of ports monitored by Kaspersky Internet Security. To scan data streams enter on all open network ports, select the option **Monitor all ports**. To edit the list of monitored ports manually, select **Monitor selected ports only**.

To add a new port to the monitored port list:

1. Click on the **Add** button in the **Port settings** window.
2. Enter the port number and a description of it in the appropriate fields in the **New Port** window.

For example, there might be a nonstandard port on your computer through which data is being exchanged with a remote computer using the HTTP protocol, which

is monitored by Web Anti-Virus. To analyze this traffic for malicious code, you can add this port to a list of controlled ports.

When any of its components starts, Kaspersky Internet Security opens port 1110 as a listening port for all incoming connections. If that port is busy at the time, it selects 1111, 1112, etc. as a listening port.

If you use Kaspersky Internet Security and another company's firewall simultaneously, you must configure that firewall to allow the *avp.exe* process (the internal Kaspersky Internet Security process) access to all the ports listed above.

For example, say your firewall contains a rule for *iexplorer.exe* that allows that process to establish connections on port 80.

However, when Kaspersky Internet Security intercepts the connection query initiated by *iexplorer.exe* on port 80, it transfers it to *avp.exe*, which in turn attempts to establish a connection with the web page independently. If there is no allow rule for *avp.exe*, the firewall will block that query. The user will then be unable to access the webpage.

19.6. Scanning Secure Connections

Connecting using SSL protocol protects data exchange through the Internet. SSL protocol can identify the parties exchanging data using electronic certificates, encrypt the data being transferred, and ensure their integrity during the transfer.

These features of the protocol are used by hackers to spread malicious programs, since most antivirus programs do not scan SSL traffic.

Kaspersky Internet Security 7.0 has the option of scanning SSL traffic for viruses. When an attempt is made to connect securely to a web resource, a notification will appear on screen (see Figure 111) prompting the user for action.

The notification contains information on the program initiating the secure connection, along with the remote address and port. The program asks you to decide whether that connection should be scanned for viruses:

- **Process** – scan traffic for viruses when connecting securely to the website.

  We recommend that you always scan SSL traffic if you are using a suspicious website or if an SSL data transfer begins when you go to the next page. It is quite likely that this is a sign of a malicious program being transferred over secure protocol.

- **Skip** – continue secure connection with the website without scanning traffic for viruses.

To apply the action selected in the future to all attempts to establish SSL connections, check **Apply to all**.

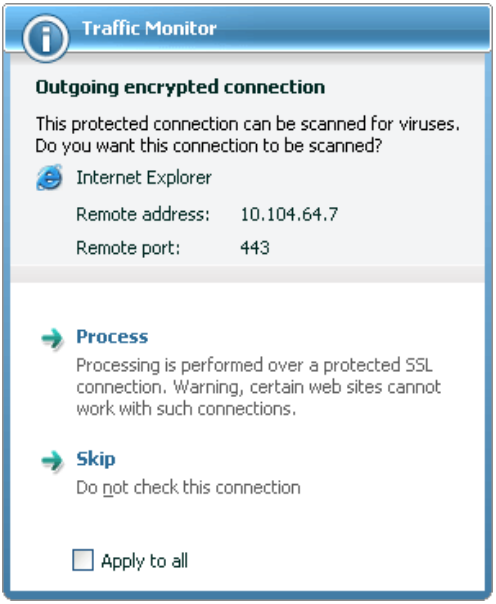

Traffic Monitor
Outgoing encrypted connection
This protected connection can be scanned for viruses. Do you want this connection to be scanned?
Internet Explorer
Remote address: 10.104.64.7
Remote port: 443
Process
Processing is performed over a protected SSL connection. Warning, certain web sites cannot work with such connections.
Skip
Do not check this connection
Apply to all

Figure 111. Notification on SSL connection detection

To scan encrypted connections, Kaspersky Internet Security replaces the security certificate requested with a self-signed one. In some cases, programs that are establishing connections will not accept this certificate, resulting in no connection being established. We recommend disabling SSL traffic scanning in the following cases:

- When connecting to a trusted web resource, such as your bank's web page, where you manage your personal account. In this case, it is important to receive confirmation of the authenticity of the bank's certificate.
- If the program establishing the connection checks the certificate of the website being accessed. For example, MSN Messenger checks the authenticity of the Microsoft Corporation digital signature when it establishes a connection with the server.

You can configure SSL scan settings under **Traffic Monitoring** of the program settings window (cf. Figure 112):

Check all encrypted connections – scan all traffic incoming on SSL protocol for viruses.

Prompt for scan when a new encrypted connection is detected – display a message prompting the user for action every time an SSL connection is established.

Do not check encrypted connections – do not scan traffic incoming on SSL protocol for viruses.

Encrypted connections
Check all encrypted connections
Prompt for scan when a new encrypted connection is detected
Do not check encrypted connections

Figure 112. Configuring Secure Connection Scans

19.7. Configuring Proxy-Server

Connection to a proxy server may be configured using the **Proxy Server** section (cf. Figure 114) of the application settings window (if connection to the Internet is through a proxy). Kaspersky Internet Security utilizes these settings for several real-time protection components and to update application databases and modules.

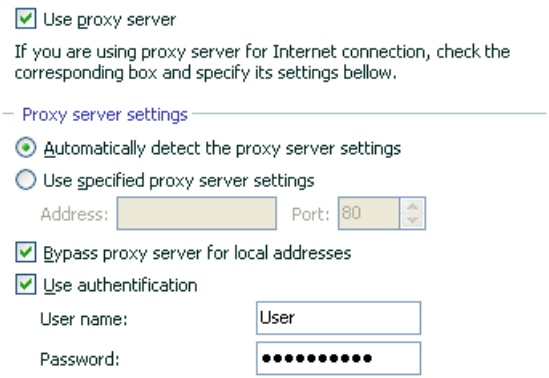

Use proxy server
If you are using proxy server for Internet connection, check the corresponding box and specify its settings bellow.
Proxy server settings
Automatically detect the proxy server settings
Use specified proxy server settings
Address:
Port: 80
Bypass proxy server for local addresses
Use authentification
User name: User
Password: ••••••••••

Figure 113. Configuring Proxy-Server

If a proxy server is used to connect to the Internet, check **Use Proxy Server** and configure the following settings as necessary:

- Select proxy server parameters to use:

Automatically detect the proxy server settings. If this option is selected, proxy server settings are autodetected using the WPAD (Web Proxy Auto-Discovery Protocol) protocol. If the above protocol is unable to determine the address, Kaspersky Internet Security uses the proxy server settings specified for Microsoft Internet Explorer.

Use specified proxy server settings: use a proxy server other than the one specified in the browser connection settings. Enter an IP address or a domain name in the **Address** field and a proxy server port number in the **Port** field.

Not to use a proxy server for updates from local or network directories, check **Bypass proxy server for local addresses**.

- Specify whether the proxy server uses authentication. *Authentication* is a procedure to verify user account information for the purposes of access control.

  If authentication is required to connect to the proxy server, check **Use authentification** and enter user name and password in the appropriate fields. This will result in an attempt to perform an NTLM-authorization followed by a BASIC authorization.

  If the check box is unchecked, NTLM authorization will be attempted using the login under which the task (such as an update, cf. Section 6.6, p. 67) is running.

  If the proxy server required authorization, and user name and password are not specified or rejected by the proxy for whatever reason, a dialog requesting user name and password will be displayed. If authorization is successful, the specified user name and password will be remembered for subsequent use. Otherwise, authorization information will be requested again.

If an ftp server is used to update, a passive connection to the server is established by default. If this connection attempt returns an error, an attempt is made to establish an active connection.

By default, the update server connection timeout is 1 minute. If connection fails, an attempt will be made to connect to the next update server once this timeout expires. This enumeration continues until a connection is successfully established or until all available update servers are enumerated.

19.8. Configuring the Kaspersky Internet Security interface

Kaspersky Internet Security gives you the option of changing the appearance of the program by creating and using skins. You can also configure the use of active interface elements such as the system tray icon and popup messages.

To configure the Kaspersky Internet Security interface:

Open the application settings window and select **Appearance** (cf. Figure 116).

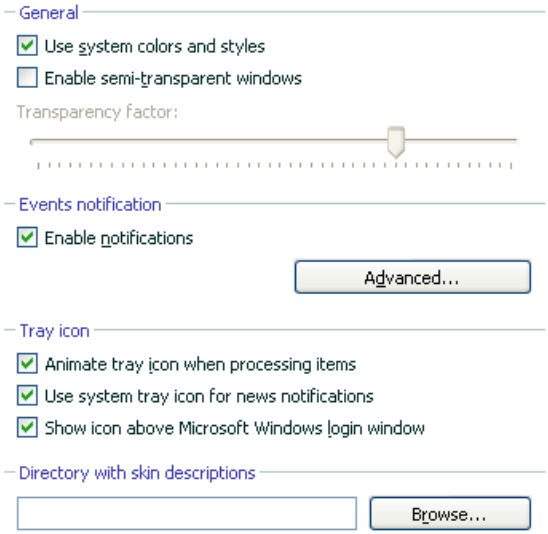


Figure 114. Configuring program appearance settings

In the right-hand part of the settings window, you can configure:

- *User defined graphical components and color scheme in the application interface*.

  By the default the graphical user interface uses system colors and styles. These can be replaced by unchecking ☑ **Use System Colors and Styles**. This will enable the styles specified when configuring display themes.

All colors, fonts, icons, and text used in the Kaspersky Internet Security interface are configurable. Customized skins may be created for the application. The application itself may be localized in another language. To plug in a skin, enter the directory containing its description in **Directory with skin descriptions**. Use the **Browse** button to select a directory.

- *Degree of transparency of popup messages.*

  All Kaspersky Internet Security operations that must immediately reach you or require you to make a decision are presented as popup messages above the system tray icon. The message windows are transparent so as not to interfere with your work. If you move the cursor over the message, the transparency disappears. You can change the degree of transparency of such messages. To do so, adjust the **Transparency factor** scale to the desired position. To remove message transparency, uncheck **Enable semi-transparent windows**.

- *Animation in the system tray icon*.

  Depending on the program operation performed, the system tray icon changes. For example, if a script is being scanned, a small depiction of a script appears in the background of the icon, and if an email is being scanned, an envelope. By default, icon animation is enabled. If you want to turn off animation, uncheck **Animate tray icon when processing items**. Then the icon will only reflect the protection status of your computer: if protection is enabled, the icon is in color, and if protection is paused or disabled, the icon becomes gray.

Notifications of news from Kaspersky Lab

By default, if news is received, a special icon is displayed in the system tray which displays a window containing the news item, when clicked. To disable notifications, uncheck **Notify of News Using Icon in System Tray**.

Display of Kaspersky Internet Security icon at operating system startup.

This indicator by default appears in the upper right-hand corner of the screen when the program loads. It informs you that your computer is protected from all threat types. If you do not want to use the protection indicator, uncheck **Show icon above Microsoft Windows login window**.

Note that modifications of Kaspersky Internet Security interface settings are not saved when default settings are restored or if the application is uninstalled.

19.9. Using advanced options

Kaspersky Internet Security provides you with the following advanced features (cf. Figure 115):

- starting Kaspersky Internet Security at operating system startup (cf. Section 19.11, p. 280);
- user notification of certain application events (cf. Section 19.9.1, p. 271);
- Kaspersky Internet Security self-defense from module shutdown, removal, or modification, password protection of application (cf. Section 19.9.2, p. 275);
- export / import of Kaspersky Internet Security runtime settings (cf. Section 19.9.3, p. 276);
- recovery of default settings (cf. Section 19.9.4, p. 277).

To configure these features:

Open the application settings window and select **Service**.

In the right hand part of the screen you can define whether to use additional features in program operation.

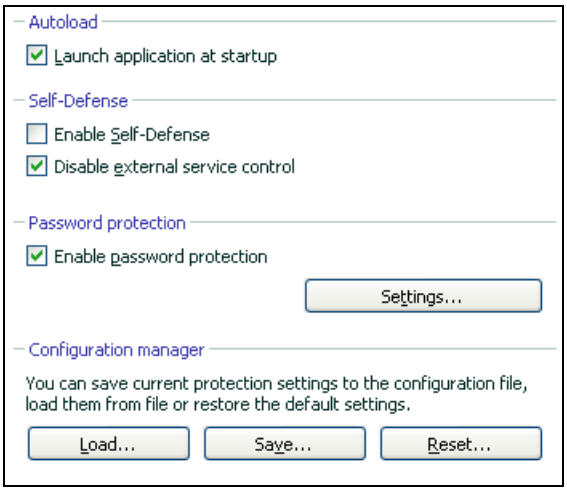


Figure 115. Configuring Advanced Options

19.9.1. Kaspersky Internet Security event notifications

Different kinds of events occur in Kaspersky Internet Security. They can be of an informative nature or contain important information. For example, an event can inform you that the program has updated successfully, or can record an error in a component that must be immediately eliminated.

To receive updates on Kaspersky Internet Security operation, you can use the notification feature.

Notices can be delivered in several ways:

- Popup messages above the program icon in the system tray
- Sound messages
- Emails
- Logging events

To use this feature, you must:

1. Check **Enable notifications** under **Interaction with user** in the **Appearance** section of the application settings window (cf. Figure 114).
2. Define the event types from Kaspersky Internet Security for which you want notifications, and the notification delivery method (see 19.9.1.1 on pg. 271).
3. Configure email notification delivery settings, if that is the notification method that is being used (see 19.9.1.2 on pg. 273).

19.9.1.1. Types of events and notification delivery methods

During Kaspersky Internet Security operation, the following kinds of events arise:

Critical notifications are events of a critical importance. Notifications are highly recommended, since they point to problems in program operation or vulnerabilities in protection on your computer. For example, *application databases corrupt* or *key expired*.

Functional failures are events that lead to the application not working. For example, no key or application databases.

Important notifications are events that must be investigated, since they reflect important situations in the operation of the program. For

example, *protection disabled* or *computer has not been scanned for viruses for a long time.*

Minor notifications are reference-type messages which generally do not contain important information. For example, *all dangerous objects disinfected*.

To specify which events the program should notify you of and how:

1. Open the application settings window and select **Appearance** (cf. Figure 114).
2. Check **Enable Notifications** under **Events notification** and go to advanced settings by clicking **Advanced**.

The following methods of notification of the above events may be configured, using the **Events Notification Settings** dialog (cf. Figure 116):

- *Popup messages* above the program icon in the system tray that contain an informative message on the event that occurred.

  To use this notification type, check in the **Balloon** section across from the event about which you want to be informed.

- *Sound notification*

  If you want this notice to be accompanied by a sound file, check **Sound** across from the event.

- *Email notification*

  To use this type of notice, check the **E-Mail** column across from the event about which you want to be informed, and configure settings for sending notices (see 19.9.1.2 on pg. 273).

- *Logging events*

  To record information in the log about events that occur, check in the **Log** column and configure event log settings (see 19.9.1.3 on pg. 274).

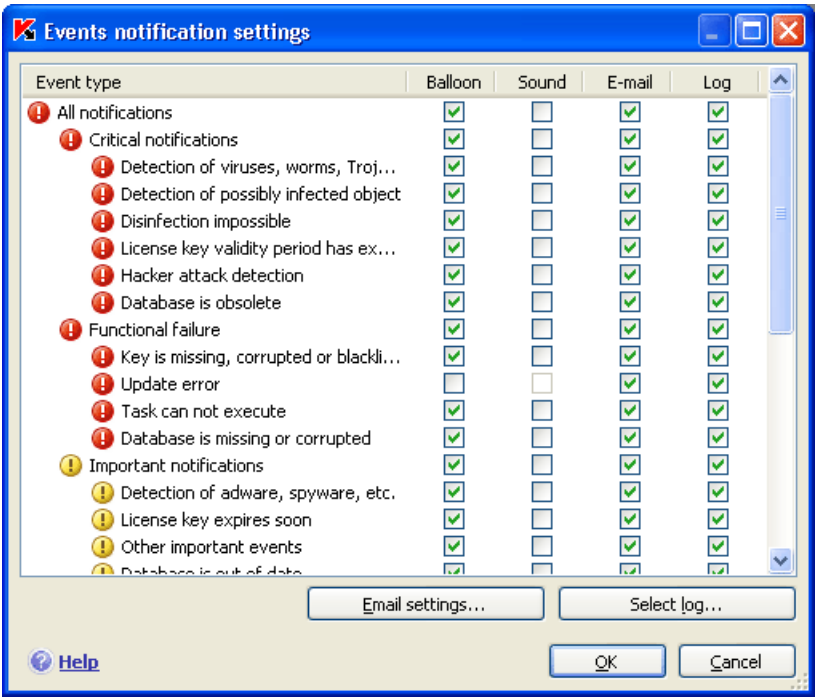


Figure 116. Program events and event notification methods

19.9.1.2. Configuring email notification

After you have selected the events (see 19.9.1.1 on pg. 271) about which you wish to receive email notifications, you must set up notification delivery. To do so:

1. Open the application settings window and select **Appearance** (cf. Figure 114)**.**
2. Click **Advanced** under **Events notification**.
3. Use the **Events notification settings** window (see Figure 117) to check events that should trigger email notification in the **E-mail** column.
4. In the window (see Figure 117) that opens when you click **Email settings**, configure the following settings for sending e-mail notifications:
   - Assign the sending notification setting for **From: Email address**.

- Specify the email address to which notices will be sent in **To: Email address**.
- Assign a email notification delivery method in the **Send mode**. If you want the program to send email as soon as the event occurs, select **Immediately when event occurs**. For notifications about events within a certain period of time, fill out the schedule for sending informative emails by click **Change**. Daily notices are the default.

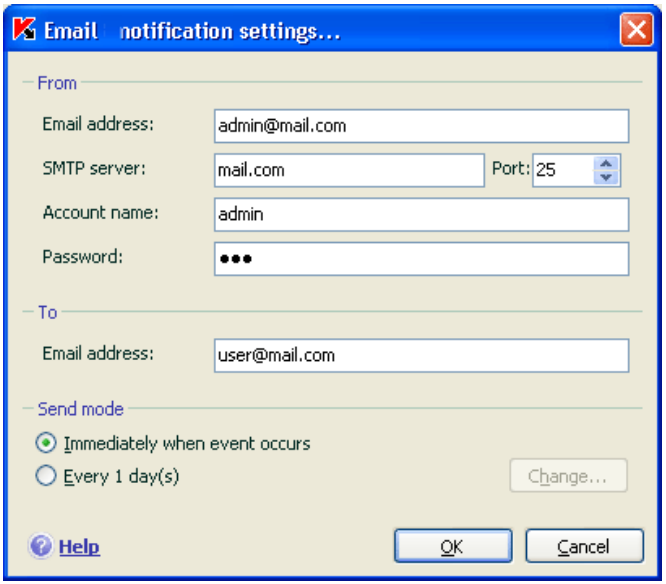


Figure 117. Configuring email notification settings

19.9.1.3. Configuring event log settings

To configure event log settings:

1. Open the application settings window and select **Appearance** (cf. Figure 114).
2. Click **Advanced** under **Events notification**.

Use the **Events Notification settings** window to select the option of logging information for an event and click the **Log Settings** button.

Kaspersky Internet Security has the option of recording information about events that arise while the program is running, either in the Microsoft Windows general

event log (**Application**) or in a dedicated Kaspersky Internet Security (**Kaspersky Event Log**).

Logs can be viewed in the Microsoft Windows **Event Viewer**, which you can open by going to **Start/Settings/Control Panel/Administration/View Events**.

19.9.2. Self-Defense and access restriction

Kaspersky Internet Security is an application which protects computers from malware and, as such, is of interest to malicious software attempting to disable the application or even remove it from computers.

Moreover, several people may be using the same computer, all with varying levels of computer literacy. Leaving access to the program and its settings open could dramatically lower the security of the computer as a whole.

To ensure the stability of your computer's security system, Self-Defense, remote access defense, and password protection mechanisms have been added to the program.

On computers running 64-bit operating systems and Microsoft Windows Vista, self-defense is only available for preventing the program's own files on local drives and system registry records from being modified or deleted.

To enable Self-Defense:

1. Open the application settings window and select **Service** (cf. Figure 115)**.**
2. Make the following configurations in the **Self-Defense** box (see Figure 115):

   ☑ **Enable Self-Defense**. If this box is checked, the program will protect its own files, processes in memory, and entries in the system registry from being deleted or modified.

   ☑ **Disable external service control**. If this box is checked, any remote administration program attempting to use the program will be blocked.

   If any of the actions listed are attempted, a message will appear over the program icon in the system tray (if the notification service has not been disabled by the user).

To password protect the program, check ☑ **Enable password protection** in the area of the same name. Click on the **Settings** button to open the **Password Protection** window, and enter the password and area that the access restriction will cover (see Figure 118). You can block any program operations, except

notifications for dangerous object detection, or prevent any of the following actions from being performed:

- Change of program performance settings
- Close Kaspersky Internet Security
- Disable or pause protection on your computer

Each of these actions lowers the level of protection on your computer, so try to establish which of the users on your computer you trust to take such actions.

Now whenever any user on your computer attempts to perform the actions you selected, the program will request a password.

Figure 118. Program password protection settings

19.9.3. Importing and exporting Kaspersky Internet Security settings

Kaspersky Internet Security allows you to import and export application settings.

This feature is useful when, for example, the program is installed both on your home computer and in your office. You can configure the program the way you want it at home, save those settings on a disk, and using the import feature, load them on your computer at work. The settings are saved in a special configuration file.

To export the current program settings:

1. Open the program settings window and select the **Service** section (cf. Figure 115).
2. Click the **Save** button in the **Configuration Manager** section.
3. Enter a name for the configuration file and select a save destination.

To import settings from a configuration file:

1. Open the program settings window and select the **Service** section.
2. Click the **Load** button and select the file from which you want to import Kaspersky Internet Security settings.

19.9.4. Restoring default settings

It is always possible to return to the default program settings, which are considered the optimum and are recommended by Kaspersky Lab. This can be done using the Setup Wizard.

To reset protection settings:

1. Open the program settings window and select the **Service** section (cf. Figure 115).
2. Click the **Reset** button in the **Settings Manager** section.

The window that opens asks you to define which settings should be restored to their default values.

The window lists the program components whose settings were changed by the user, or that the program accumulated through training (Firewall or Anti-Spam). If special settings were created for any of the components, they will also be shown on the list.

Examples of special settings would be white and black lists of phrases and addresses used by Anti-Spam; trusted address lists and trusted ISP telephone number lists used by Web Anti-Virus and Privacy Control; exclusion rules created for program components; packet filtering and application rules for Firewall, and application rules for Proactive Defense.

These lists are populated gradually by using the program, based on individual tasks and security requirements. This process often takes some time. Therefore, we recommend saving them when you reset program settings.

The program saves all the custom settings on the list by default (they are unchecked). If you do not need to save one of the settings, check the box next to it.

After you have finished configuring the settings, click the **Next** button. Initial Setup Wizard will open (see 3.2, pg. 35). Follow its instructions.

After you are finished with the Setup Wizard, the **Recommended** security level will be set for all protection components, except for the settings that you decided to keep. In addition, settings that you configured with the Setup Wizard will also be applied.

19.10. Technical Support

Information on technical support made available to users by Kaspersky Lab is provided under **Support** (cf. Figure 119) in the application main window.

The top section presents general application information: version, database publication date, as well as a summary of your computer's operating system.

If problems should arise while running Kaspersky Internet Security, first make sure that troubleshooting instructions for the problem are not provided in this help system or the Knowledge Base at the Kaspersky Lab Technical Support web site. The Knowledge Base is a separate section of the Technical Support web site and comprises recommendations for Kaspersky Lab products as well as answers to frequently asked questions. Try using this resource to find an answer to your question or a solution to your issue. Click on **Web Support** to go to the Knowledge Base.

The Kaspersky Lab user forum is another application information resource. It is also made into a separate section at the Technical Support web site and contains user questions, feedback, and requests. You can view the main topics, leave feedback, or find an answer to a question. Click User Forum to go to this resource.

If you do not find a solution to your problem in Help, the Knowledge Base, or User Forum, we recommend that you contact Kaspersky Lab Technical Support.

Please note that you have to be a registered user of Kaspersky Internet Security commercial version to obtain technical support. No support is provided to users of trial versions.

User registration is performed using the Activation Wizard (cf. Section 3.2.2, p. 36), if the application is being activated using an activation code. A client ID will be assigned at the end of the registration process which may be viewed under Support (cf. Figure 119) of the main window. A client number is a personal user ID which is required for phone or web form-based technical support.

If a key file is used for activation, register directly at the Technical Support web site.

A new service referred to as the **Personal Cabinet** provides users access to a personal section of the Technical Support web site. The Personal Cabinet enables you to:

- send Technical Support requests without logging in;
- exchange messages with Technical Support without using email;
- monitor requests in real-time;
- view the complete history of your Technical Support requests;
- obtain a backup copy of the key file.

Use the **Create Request** link to send an online form-based request to Technical Support. Enter your Personal Cabinet on the Technical Support site which will open as a result and complete the request form.

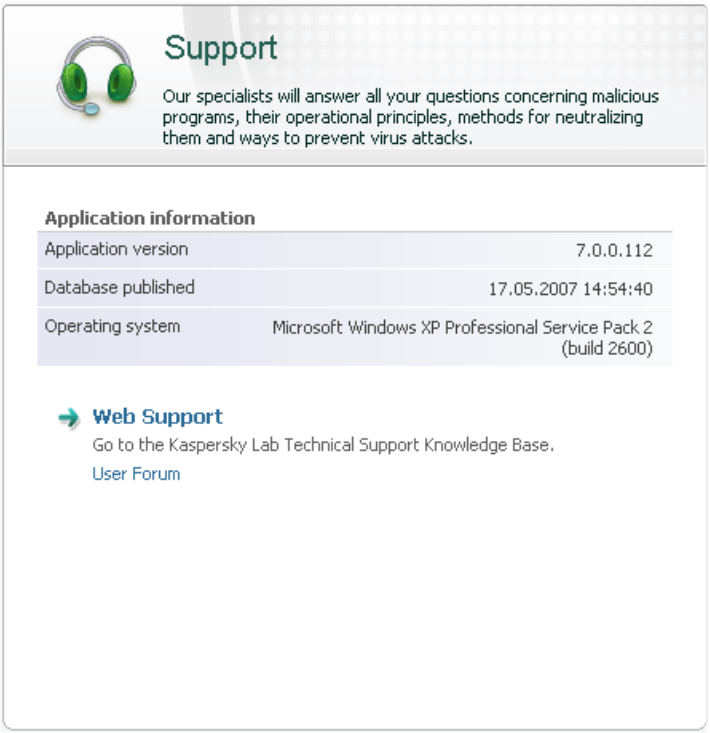

Support
Our specialists will answer all your questions concerning malicious programs, their operational principles, methods for neutralizing them and ways to prevent virus attacks.
Application information
Application version
7.0.0.112
Database published
17.05.2007 14:54:40
Operating system
Microsoft Windows XP Professional Service Pack 2 (build 2600)
Web Support
Go to the Kaspersky Lab Technical Support Knowledge Base.
User Forum

Figure 119. Technical Support Information

For urgent assistance, use the contact numbers provided in the Help System (cf. Section C.2, p. 376). Telephone support is provided 24/7 in Russian, English, French, German, and Spanish.

19.11. Closing Application

If Kaspersky Internet Security needs to be shut down, select **Exit** on the application context menu (cf. Section 4.2, p. 46). This will cause the application to be unloaded from random access memory, which would mean that your computer was unprotected at the moment.

In the event that there were open network connections at the time the application was shut down, a message will be displayed that these connections have been broken. This is required for the application to exit properly. Disconnection is automatic after 10 seconds or occurs when **Yes** is clicked. Most such connections are re-established after a period of time.

Please note that any downloads underway at the time the connections are broken will be interrupted unless a download manager is being used. The download will have to be restarted for you to get the file.

You can prevent the connections from being broken by clicking **No** in the notification window. This will cause the application to continue running.

If the application is shut down, protection may be re-enabled by restarting Kaspersky Internet Security by selecting **Start** → **Programs** → **Kaspersky Internet Security 7.0** → **Kaspersky Internet Security 7.0**.

Protection will also restart automatically following an operating system reboot.. To enable this mode, select **Service** (cf. Figure 115) in the application settings window and check ☑ **Launch application at startup** under **Autoload**.

CHAPTER 20. WORKING WITH THE PROGRAM FROM THE COMMAND LINE

You can use Kaspersky Internet Security from the command line. You can execute the following operations:

- Starting, stopping, pausing and resuming the activity of application components
- Starting, stopping, pausing and resuming virus scans
- Obtaining information on the current status of components, tasks and statistics on them
- Scanning selected objects
- Updating databases and program modules
- Accessing Help for command prompt syntax
- Accessing Help for command syntax

The command line syntax is:

```
avp.com <command> [settings]
```

> You must access the program from the command prompt from the program installation folder or by specifying the full path to avp.com.

The following may be used as **<commands>**:

ACTIVAE	Activates application via Internet using an activation code
ADDKEY	Activates application using a key file (command can only be executed if the password assigned through the program interface is entered)
START	Starts a component or a task
PAUSE	Pauses a component or a task (command can only be executed if the password assigned through the program interface is entered)

RESUME	Resumes a component or a task
STOP	Stops a component or a task (command can only be executed if the password assigned through the program interface is entered)
STATUS	Displays the current component or task status on screen
STATISTICS	Displays statistics for the component or task on screen
HELP	Help with command syntax and the list of commands
SCAN	Scans objects for viruses
UPDATE	Begins program update
ROLLBACK	Rolls back to the last program update made (command can only be executed if the password assigned through the program interface is entered)
EXIT	Closes the program (you can only execute this command with the password assigned in the program interface)
IMPORT	Import Kaspersky Internet Security settings (command can only be executed if the password assigned through the program interface is entered)
EXPORT	Export Kaspersky Internet Security settings

Each command uses its own settings specific to that particular Kaspersky Internet Security component.

20.1. Activating the application

You can activate the program in two ways:

- via Internet using an activation code (the ACTIVATE command)
- using a key file (the ADDKEY command)

Command syntax:

```
ACTIVATE <activation_code>
ADDKEY <file_name> /password=<your_password>
```

Parameter description:

<activation_code>	Program activation code provided when you purchased it.
<file_name>	Name of the key file with the extension *.key*.
<your_password>	Password for accessing Kaspersky Internet Security assigned in the application interface.
Note that you cannot execute the **ADDKEY** command without entering the password.	

Example:

```
avp.com ACTIVATE 00000000-0000-0000-0000-000000000000
avp.com ADDKEY 00000000.key /password=<your_password>
```

20.2. Managing program components and tasks

Command syntax:

```
avp.com <command> <profile|task_name> [/R[A]:<report_file>]
avp.com STOP|PAUSE <profile|task_name>
/password=<your_password> [/R[A]:<report_file>]
```

Parameter description:

<command>	You can manage Kaspersky Internet Security components and tasks from the command prompt with the following commands: **START** - load a real-time protection component or task. **STOP** - stop a real-time protection component or task. **PAUSE** - stop a real-time protection component or task.

	RESUME - resume a real-time protection component or task. **STATUS** - display the current status of the real-time protection component or task. **STATISTICS** – outputs statistics to the screen on real-time protection component or task operation. Note that you cannot execute the commands PAUSE or STOP without entering the password.
<profile|task_name>	You can specify any real-time protection component, modules in the components, on-demand scan tasks, or updates for the values of **<profile>** (the standard values used in the program are shown in the table below). You can specify the name of any on-demand scan or update task as the value for **<task_name>**.
<your_password>	Kaspersky Internet Security password assigned in the program interface.
/R[A]:<report_file>	**R:<report_file>** – only log important events in the report. **/RA:<report_file>** – log all events in the report.. You can use an absolute or relative path to the file. If the parameter is not defined, the scan results are displayed on screen, and all events are displayed.

One of the following values is assigned to **<profile>**:

RTP	All protection components The command avp.com START RTP starts all real-time protection components if protection is fully disabled (see 6.1.2 on pg. 63) or paused (see 6.1.1 on pg. 62). This command will also start any real-time protection component that was paused that was paused from the GUI or the PAUSE command from the command prompt. If the component was disabled from the GUI or the STOP command from the command prompt, the command avp.com START RTP will not start it. In order to start it, you must execute the command

	avp.com START <profile>, with the value for the specific protection component entered for <profile>. For example, avp.com START FM.
FM	File Anti-Virus
EM	Mail Anti-Virus
WM	Web Anti-Virus Values for Web Anti-Virus subcomponents: **httpscan** – scans http traffic **sc** – scans scripts
BM	Proactive Defense Values for Proactive Defense subcomponents: **pdm** – application activity analysis
ASPY	Privacy Control Values for Privacy Control subcomponents: **antidial** – Anti-Dialer **antiphishing** – Anti-Phishing **PrivacyControl** – Protects confidential data
AH	Firewall Values for Firewall subcomponents: **fw** – filtration system; **ids** – Intrusion Detection System; **AdBlocker** – AdBlocker; **popupchk** – Popup Blocker
AS	Anti-Spam
ParCtl	Parental Control
UPDATER	Updater

Rollback	Rolls back to the previous update
SCAN_OBJECTS	Virus scan task
SCAN_MY_COMPUTER	My Computer task
SCAN_CRITICAL_AREAS	Critical Areas task
SCAN_STARTUP	Startup Objects task
SCAN_QUARANTINE	Scans quarantined objects
SCAN_ROOTKITS	Rootkit scan task
Components and tasks started from the command prompt are run with the settings configured with the program interface.	

Examples:

To enable File Anti-Virus, type this at the command prompt:

```
avp.com START FM
```

To view the current status of Proactive Defense on your computer, type the following text at the command prompt:

```
avp.com STATUS BM
```

To stop a My Computer scan task from the command prompt, enter:

```
avp.com STOP SCAN_MY_COMPUTER
/password=<your_password>
```

20.3. Anti-virus scans

The syntax for starting a virus scan of a certain area, and processing malicious objects, from the command prompt generally looks as follows:

```
avp.com SCAN [<object scanned>] [<action>] [<file
types>] [<exclusions>] [<configuration file>]
[<report settings>] [<advanced settings>]
```

To scan objects, you can also start one of the tasks created in Kaspersky Internet Security from the command prompt (see 20.1 on pg. 282). The task will be run with the settings specified in the program interface.

Parameter description.

<table>
<tr><td colspan="2"><object scanned> - this parameter gives the list of objects that will be scanned for malicious code.
It can include several values from the following list, separated by spaces.</td></tr>
<tr><td><files></td><td>List of paths to the files and/or folders to be scanned. You can enter absolute or relative paths. Items in the list are separated by a space.
Notes:
If the object name contains a space, it must be placed in quotation marks
If you select a specific folder, all the files in it are scanned.</td></tr>
<tr><td>/MEMORY</td><td>System memory objects</td></tr>
<tr><td>/STARTUP</td><td>Startup objects</td></tr>
<tr><td>/MAIL</td><td>Email databases</td></tr>
<tr><td>/REMDRIVES</td><td>All removable media drives</td></tr>
<tr><td>/FIXDRIVES</td><td>All internal drives</td></tr>
<tr><td>/NETDRIVES</td><td>All network drives</td></tr>
<tr><td>/QUARANTINE</td><td>Quarantined objects</td></tr>
<tr><td>/ALL</td><td>Complete scan</td></tr>
<tr><td>/@:<filelist.lst></td><td>Path to a file containing a list of objects and folders to be included in the scan. The file should be in a text format and each scan object must start a new line.
You can enter an absolute or relative path to the file. The path must be placed in quotation marks if it contains a space.</td></tr>
<tr><td colspan="2"><action> - this parameter sets responses to malicious objects detected during the scan. If this parameter is not defined, the default value is /i8.</td></tr>
</table>

/i0	take no action on the object; simply record information about it in the report.
/i1	Treat infected objects, and if disinfection fails, skip
/i2	Treat infected objects, and if disinfection fails, delete. Exceptions: do not delete infected objects from compound objects; delete compound objects with executable headers, i.e. sfx archives (default).
/i3	Treat infected objects, and if disinfection fails, delete. Also delete all compound objects completely if infected contents cannot be deleted.
/i4	Delete infected objects, and if disinfection fails, delete. Also delete all compound objects completely if infected contents cannot be deleted.
/i8	Prompt the user for action if an infected object is detected.
/i9	Prompt the user for action at the end of the scan.
<file types> - this parameter defines the file types that will be subject to the anti-virus scan. If this parameter is not defined, the default value is /fi.	
/fe	Scan only potentially infected files by extension
/fi	Scan only potentially infected files by contents (default)
/fa	Scan all files
<exclusions> - this parameter defines objects that are excluded from the scan. It can include several values from the list provided, separated by spaces.	
-e:a	Do not scan archives
-e:b	Do not scan email databases

-e:m	Do not scan plain text emails
-e:<filemask>	Do not scan objects by mask
-e:<seconds>	Skip objects that are scanned for longer that the time specified in the **<seconds>** parameter.
-es:<size>	Skip files larger (in MB) than the value assigned by **<size>**.
<configuration file> - defines the path to the configuration file that contains the program settings for the scan. The configuration file is a file in the text format, containing a set of command line parameters for anti-virus scan. You can enter an absolute or relative path to the file. If this parameter is not defined, the values set in the Kaspersky Internet Security interface are used.	
/C:<file_name>	Use the settings values assigned in the file **<file_name>**
<report settings> - this parameter determines the format of the report on scan results. You can use an absolute or relative path to the file. If the parameter is not defined, the scan results are displayed on screen, and all events are displayed.	
/R:<report_file>	Only log important events in this file
/RA:<report_file>	Log all events in this file
<advanced settings> – settings that define the use of anti-virus scanning technologies.	
/iChecker=<on|off>	Enable/ disable iChecker
/iSwift=<on|off>	Enable/ disable iSwift

Examples:

*Start a scan of RAM, Startup programs, email databases, the directories **My Documents** and **Program Files**, and the file **test.exe**:*

```
avp.com SCAN /MEMORY /STARTUP /MAIL "C:\Documents and
Settings\All Users\My Documents" "C:\Program Files"
"C:\Downloads\test.exe"
```

Pause scan of selected objects and start full computer scan, then continue to scan for viruses within the selected objects:

```
avp.com PAUSE SCAN_OBJECTS /password=<your_password>
avp.com START SCAN_MY_COMPUTER
avp.com RESUME SCAN_OBJECTS
```

*Scan RAM and the objects listed in the file **object2scan.txt**. Use the configuration file **scan_setting.txt**. After the scan, generate a report in which all events are recorded:*

```
avp.com SCAN /MEMORY /@:objects2scan.txt
/C:scan_settings.txt /RA:scan.log
```

Sample configuration file:

```
/MEMORY /@:objects2scan.txt /C:scan_settings.txt
/RA:scan.log
```

20.4. Program updates

The syntax for updating Kaspersky Internet Security databases and modules from the command prompt is as follows:

```
avp.com UPDATE [<update_source>]
[/R[A]:<report_file>] [/C:<file_name>]
[/APP=<on|off>]
```

Parameter description:

[<update_source>]	HTTP or FTP server or network folder for downloading updates. You can specify the full path to the update source or a URL as the value for this parameter. If a path is not selected, the update source will be taken from the Update settings.

/R[A]:<report_file>	**/R:<report_file>** – only log important events in the report. **/RA:<report_file>** – log all events in the report. You can use an absolute or relative path to the file. If the parameter is not defined, the scan results are displayed on screen, and all events are displayed.
/C:<file_name>	Path to the configuration file with the settings for program updates. The configuration file is a file in the text format, containing a set of command line parameters for application update. You can enter an absolute or relative path to the file. If this parameter is not defined, the values for the settings in the Kaspersky Internet Security interface are used.
/APP=<on | off>	Enable / disable application module updates

Examples:

Update Kaspersky Internet Security databases and record all events in the report:

```
avp.com UPDATE /RA:avbases_upd.txt
```

Update the Kaspersky Internet Security program modules by using the settings in the configuration file ***updateapp.ini****:*

```
avp.com UPDATE /APP=on/C:updateapp.ini
```

Sample configuration file:

```
"ftp://my_server/kav updates" /RA:avbases_upd.txt
/app=on
```

20.5. Rollback settings

Command syntax:

```
ROLLBACK [/R[A]:<report_file>] [/password=<password>]
```

/R[A]:<report_file>	**/R:<report_file>** - record only important events in the report. **/RA:<report_file>** - log all events in the report. You can use an absolute or relative path to the file. If the parameter is not defined, the scan results are displayed on screen, and all events are displayed.
<password>	Password for accessing Kaspersky Internet Security assigned in the application interface.
Note that you cannot execute this command without entering the password.	

Example:

```
avp.com ROLLBACK /RA:rollback.txt
/password=<your_password>
```

20.6. Exporting protection settings

Command syntax:

```
avp.com EXPORT <profile> <file_name>
```

Parameter description:

<profile>	Component or task with the settings being exported. You can use any value for **<profile>** that is listed in 20.2 on pg. 283.
<file_name>	Path to the file to which the Kaspersky Internet Security settings are exported. You can use an absolute or relative path. The configuration file is saved in binary format (*.dat*), and it can be used later to import application settings on other computers. The configuration file can be saved as a text file. To do so, specify the *.txt* extension in the file name. This file can only be used to specify the main settings for program operation.

Example:

```
avp.com EXPORT c:\settings.dat
```

20.7. Importing settings

Command syntax:

```
avp.com IMPORT <filename> [/password=<password>]
```

<file_name>	Path to the file from which the Kaspersky Internet Security settings are being imported. You can use an absolute or relative path. Settings can only be imported from binary files.
<your_password>	Kaspersky Internet Security password assigned in the program interface.

Note that you cannot execute this command without entering the password.

Example:

```
avp.com IMPORT c:\settings.dat /password=<password>
```

20.8. Starting the program

Command syntax:

```
avp.com
```

20.9. Stopping the program

Command syntax:

```
EXIT /password=<your_password>
```

<your_password>	Kaspersky Internet Security password assigned in the program interface.

Note that you cannot execute this command without entering the password.

20.10. Creating a trace file

You might need to create a trace file if you have problems with the program to troubleshoot them more exactly with the specialists at Technical Support.

Command syntax:

```
avp.com TRACE [file] [on|off] [<trace_level>]
```

Parameter description:

[on|off]	Enable/disable trace creation.
[file]	Output trace to file.
<trace_level>	This value can be an integer from 0 (minimum level, only critical messages) to 700 (maximum level, all messages). A Technical Support will tell you what trace level you need when you contact Technical Support. If it is not specified, we recommend setting the level to 500.

Warning: We only recommend creating trace files for troubleshooting a specific problem. Regularly enabling traces could slow down your computer and fill up your hard drive.

Examples:

To disable trace file creation:

```
avp.com TRACE file off
```

To create a trace file to send to Technical Support with a maximum trace level of 500:

```
avp.com TRACE file on 500
```

20.11. Viewing Help

This command is available for viewing Help on command prompt syntax:

```
avp.com [ /? | HELP ]
```

To get help on the syntax of a specific command, you can use one of the following commands:

```
avp.com <command> /?
avp.com HELP <command>
```

20.12. Return codes from the command line interface

This section contains a list of return codes from the command line. The general codes may be returned by any command from the command line. The return codes include general codes as well as codes specific to a specific type of task.

General return codes	
0	Operation completed successfully
1	Invalid setting value
2	Unknown error
3	Task completion error
4	Task canceled
Anti-virus scan task return codes	
101	All dangerous objects processed
102	Dangerous objects detected

CHAPTER 21. MODIFYING, REPAIRING, AND REMOVING THE PROGRAM

You can uninstall the application in the following ways:

- using the application's Setup Wizard (see 21.2 on pg. 298)
- from the command prompt (see 21.2 on pg. 298)

21.1. Modifying, repairing, and removing the program using Install Wizard

You may find it necessary to repair the program if you detect errors in its operation after incorrect configuration or file corruption.

Modifying the program can install missing Kaspersky Internet Security components and delete unwanted ones.

To repair or modify Kaspersky Internet Security missing components or delete the program:

1. Exit the program. To do so, left-click on the program icon in the system tray and select **Exit** from the context menu.
2. Insert the installation CD into the CD-ROM drive, if you used one to install the program. If you installed Kaspersky Internet Security from a different source (shared folder, folder on the hard drive, etc.), make sure that the installer package is in the folder and that you have access to it.
3. Select **Start → Programs → Kaspersky Internet Security 7.0 → Modify, Repair, or Remove**.

An installation wizard then will open for the program. Let's take a closer took at the steps of repairing, modifying, or deleting the program.

Step 1. Selecting an operation

At this stage, you select which operation you want to run. You can modify the program components, repair the installed components, remove components or

remove the entire program. To execute the operation you need, click the appropriate button. The program's response depends on the operation you select.

Modifying the program is like custom program installation where you can specify which components you want to install, and which you want to delete.

Repairing the program depends on the program components installed. The files will be repaired for all components that are installed and the Recommended security level will be set for each of them.

If you remove the program, you can select which data created and used by the program you want to save on your computer. To delete all Kaspersky Internet Security data, select **Complete uninstall**. To save data, select **Save application objects** and specify which objects not to delete from this list:

- *Activation information* – application key file.
- *Application databases* – complete set of signatures of dangerous programs, virus, and other threats current as of the last update.
- *Anti-Spam databases* – database used to detect junk email. These databases contain detailed information on what email is spam and what is not.
- *Backup files* – backup copies of deleted or disinfected objects. You are advised to save these, in case they can be restored later.
- *Quarantine files* – files that are potentially infected by viruses or modifications of them. These files contain code that is similar to code of a known virus but it is difficult to determine if they are malicious. You are advised to save them, since they could actually not be infected, or they could be disinfected after the application databases are updated.
- *Protection settings* – configurations for all program components.
- *iSwift data* – database with information on objects scanned on NTFS file systems, which can increase scan speed. When it uses this database, Kaspersky Internet Security only scans the files that have been modified since the last scan.

Warning!

If a long period of time elapses between uninstalling one version of Kaspersky Internet Security and installing another, you are advised not to use the *iSwift* database from a previous installation. A dangerous program could penetrate the computer during this period and its effects would not be detected by the database, which could lead to an infection.

To start the operation selected, click the **Next** button. The program will begin copying the necessary files to your computer or deleting the selected components and data.

Step 2. Completing program modification, repair, or removal

The modification, repair, or removal process will be displayed on screen, after which you will be informed of its completion.

Removing the program generally requires you to restart your computer, since this is necessary to account for modifications to your system. The program will ask if you want to restart your computer. Click **Yes** to restart right away. To restart your computer later, click **No**.

21.2. Uninstalling the program from the command line

- To uninstall Kaspersky Internet Security from the command line, enter:

  ```
  msiexec /x <package_name>
  ```

- The Setup Wizard will open. You can use it to uninstall the application (see Chapter 21 on pg. 296).
- You can also use the commands given below.

To uninstall the application in the background without restarting the computer (the computer should be restarted manually after uninstalling), enter:

```
msiexec /x <package_name> /qn
```

To uninstall the application in the background and then restart the computer, enter:

```
msiexec /x <package_name> ALLOWREBOOT=1 /qn
```

CHAPTER 22. FREQUENTLY ASKED QUESTIONS

This chapter is devoted to the most frequently asked questions from users pertaining to installation, setup and operation of the Kaspersky Internet Security; here we shall try to answer them here in detail.

Question: Is it possible to use Kaspersky Internet Security 7.0 with anti-virus products of other vendors?

No. We recommend uninstalling anti-virus products of other vendors prior to installation of Kaspersky Internet Security to avoid software conflicts.

Question: Kaspersky Internet Security does not rescan files that have been scanned earlier. Why?

This is true. Kaspersky Internet Security does not rescan files that have not changed since the last scan.

That has become possible due to new iChecker and iSwift technologies. The technology is implemented in the program using a database of file checksums and file checksum storage in alternate NTFS streams.

Question: Why is activation required? Will Kaspersky Internet Security work without a key file?

Kaspersky Internet Security will run without a key, although you will not be able to access the Updater and Technical Support.

If you still have not decided whether to purchase Kaspersky Internet Security, we can provide you with a trial license that will work for either two weeks or a month. Once that time has elapsed, the key will expire.

Question: After the installation of Kaspersky Internet Security the operating system started "behaving" strangely ("blue screen of death", frequent restarting, etc.) What should I do?

Although rare, it is possible that Kaspersky Internet Security and other software installed on your computer will conflict.

In order to restore the functionality of your operating system do the following:

1. Press the **F8** key repeatedly between the time when the computer just started loading until the boot menu is displayed.
2. Select **Safe Mode** and load the operating system.

3. Open Kaspersky Internet Security.
4. Open the application settings window and select **Service**.
5. Uncheck **Launch application at startup** and click **OK**.
6. Reboot the operating system in regular mode.

Send a request to Kaspersky Lab Technical Support. Open the application main window, select **Support**, and click **Send Request**. Describe the problem and its signature in as much detail as possible.

Make sure that you attach to your question a file containing a complete dump of Microsoft Windows operating system. In order to create this file, do the following:

1. Right-click **My computer** and select the **Properties** item in the shortcut menu that will open.
2. Select the **Advanced** tab in the **System Properties** window and then press the **Settings** button in the **Startup and Recovery** section.
3. Select the **Complete memory dump** option from the drop-down list in the **Write debugging information** section of the **Startup and Recovery** window.

   By default, the dump file will be saved into the system folder as *memory.dmp*. You can change the dump storage folder by editing the folder name in the corresponding field.
4. Reproduce the problem related to the operation of Kaspersky Internet Security.
5. Make sure that the complete memory dump file was successfully saved.

APPENDIX A. REFERENCE INFORMATION

This appendix contains reference materials on the file formats and extension masks used in Kaspersky Internet Security settings.

A.1. List of files scanned by extension

If you select **Scan programs and documents (by extension)**, File Anti-Virus will scan files with the extensions below in-depth for viruses. Mail Anti-Virus will also scan these files if you enable attachment filtration.

com – executable file for a program

exe – executable file or self-extracting archive

sys – system driver

prg – program text for dBase, Clipper or Microsoft Visual FoxPro, or a WAVmaker program

bin – binary file

bat – batch file

cmd – command file for Microsoft Windows NT (similar to a .bat file for DOS), OS/2

dpl – compressed Borland Delphi library

dll – dynamic loading library

scr – Microsoft Windows splash screen

cpl – Microsoft Windows control panel module

ocx – Microsoft OLE (Object Linking and Embedding) object

tsp – program that runs in split-time mode

drv – device driver

vxd – Microsoft Windows virtual device driver

pif – program information file

lnk – Microsoft Windows link file

reg – Microsoft Windows system registry key file

ini – initialization file

cla – Java class

vbs – Visual Basic script

vbe – BIOS video extension

js, jse – JavaScript source text

htm – hypertext document

htt – Microsoft Windows hypertext header

hta – hypertext program for Microsoft Internet Explorer

asp – Active Server Pages script

chm – compiled HTML file

pht – HTML with built-in PHP scripts

php – script built into HTML files

wsh – Microsoft Windows Script Host file

wsf – Microsoft Windows script

the – Microsoft Windows 95 desktop wallpaper

hlp – Win Help file

eml – Microsoft Outlook Express email file

nws – Microsoft Outlook Express new email file

msg – Microsoft Mail email file

plg – email

mbx – extension for saved Microsoft Office Outlook emails

doc – Microsoft Office Word document

dot – Microsoft Office Word document template

fpm – database program, start file for Microsoft Visual FoxPro

rtf – Rich Text Format document

shs – Shell Scrap Object Handler fragment

dwg – AutoCAD blueprint database

msi – Microsoft Windows Installer package

otm – VBA project for Microsoft Office Outlook

pdf – Adobe Acrobat document

swf – Shockwave Flash file

jpg, jpeg, png – compressed image graphics format

emf – Enhanced Metafile format Next generation of Microsoft Windows OS metafiles. EMF files are not supported by 16-bit Microsoft Windows

ico – icon file

ov? – Microsoft DOC executable files

*xl** – Microsoft Office Excel documents and files, such as: *xla* – Microsoft Office Excel extension, *xlc* – diagram, *xlt* – document templates, etc.

*pp** – Microsoft Office PowerPoint documents and files, such as: *pps* – Microsoft Office PowerPoint slide, *ppt* – presentation, etc.

*md** – Microsoft Office Access documents and files, such as: *mda* – Microsoft Office Access work group, mdb – database, etc.

Remember that the actual format of a file may not correspond with the format indicated in the file extension.

A.2. Valid file exclusion masks

Let's look at some examples of possible masks that you can use when creating file exclusion lists:

1. Masks without file paths:
   - ***.exe** – all files with the extension *.exe*
   - ***.ex?** – all files with the extension *.ex?*, where ? can represent any one character
   - **test** – all files with the name *test*
2. Masks with absolute file paths:
   - **C:\dir*.*** or **C:\dir*** or **C:\dir** – all files in folder *C:\dir*
   - **C:\dir*.exe** – all files with extension .exe in folder *C:\dir*
   - **C:\dir*.ex?** – all files with extension .ex? in folder *C:\dir*, where ? can represent any one character
   - **C:\dir\test** – only the file *C:\dir\test*

     If you do not want the program to scan files in the subfolders of this folder, uncheck **Include subfolders** when creating the mask.
3. Masks with relative file paths:
   - **dir*.*** or **dir*** or **dir** – all files in all *dir* folders
   - **dir\test** – all *test* files in *dir\ folders*
   - **dir*.exe** – all files with the extension *.exe* in all *dir\ folders*
   - **dir*.ex?** – all files with the extension .ex? in all *C:\dir* folders, where ? can represent any one character

   If you do not want the program to scan files in the subfolders of this folder, uncheck **Include subfolders** when creating the mask.

Tip:

. and * exclusion masks can only be used if you assign an excluded threat type according to the Virus Encyclopedia. Otherwise the threat specified will not be detected in any objects. Using these masks without selecting a threat type essentially disables monitoring.

We also do not recommend that you select a virtual drive created on the basis of a file system directory using the *subst* command as an exclusion. There is no point in doing so, since during the scan, the program perceives this virtual drive as a folder and consequently scans it.

A.3. Valid exclusion masks by Virus Encyclopedia classification

When adding threats with a certain status from the Virus Encyclopedia classification as exclusions, you can specify:

- the full name of the threat as given in the Virus Encyclopedia at www.viruslist.com (for example, **not-a-virus:RiskWare.RemoteAdmin.RA.311** or **Flooder.Win32.Fuxx**);
- threat name by mask. For example:
  - **not-a-virus*** – excludes potential dangerous programs from the scan, as well as joke programs.
  - ***Riskware.*** – excludes riskware from the scan.
  - ***RemoteAdmin.*** – excludes all remote administration programs from the scan.

APPENDIX B. KASPERSKY LAB

Founded in 1997, Kaspersky Lab has become a recognized leader in information security technologies. It produces a wide range of data security software and delivers high-performance, comprehensive solutions to protect computers and networks against all types of malicious programs, unsolicited and unwanted email messages, and hacker attacks.

Kaspersky Lab is an international company. Headquartered in the Russian Federation, the company has representative offices in the United Kingdom, France, Germany, Japan, USA (CA), the Benelux countries, China, Poland, and Romania. A new company department, the European Anti-Virus Research Centre, has recently been established in France. Kaspersky Lab's partner network incorporates more than 500 companies worldwide.

Today, Kaspersky Lab employs more than 450 specialists, each of whom is proficient in anti-virus technologies, with 10 of them holding M.B.A. degrees, 16 holding Ph.Ds, and senior experts holding membership in the Computer Anti-Virus Researchers Organization (CARO).

Kaspersky Lab offers best-of-breed security solutions, based on its unique experience and knowledge, gained in over 14 years of fighting computer viruses. A thorough analysis of computer virus activities enables the company to deliver comprehensive protection from current and future threats. Resistance to future attacks is the basic policy implemented in all Kaspersky Lab's products. At all times, the company’s products remain at least one step ahead of many other vendors in delivering extensive anti-virus coverage for home users and corporate customers alike.

Years of hard work have made the company one of the top security software manufacturers. Kaspersky Lab was one of the first businesses of its kind to develop the highest standards for anti-virus defense. The company’s flagship product, Kaspersky Internet Security, provides full-scale protection for all tiers of a network, including workstations, file servers, email systems, firewalls, Internet gateways, and hand-held computers. Its convenient and easy-to-use management tools ensure advanced automation for rapid virus protection across an enterprise. Many well-known manufacturers use the Kaspersky Internet Security kernel, including Nokia ICG (USA), F-Secure (Finland), Aladdin (Israel), Sybari (USA), G Data (Germany), Deerfield (USA), Alt-N (USA), Microworld (India) and BorderWare (Canada).

Kaspersky Lab's customers benefit from a wide range of additional services that ensure both stable operation of the company's products, and compliance with specific business requirements. Kaspersky Lab's anti-virus database is updated every hour. The company provides its customers with a 24-hour technical support service, which is available in several languages to accommodate its international clientele.

B.1. Other Kaspersky Lab Products

Kaspersky Lab News Agent

The News Agent is intended for timely delivery of news published by Kaspersky Lab, notifications about the current status of virus activity, and fresh news. The program reads the list of available news feeds and their content from the Kaspersky Lab news server at specified intervals.

News Agent enables users to;

- See the current virus forecast .in the system tray
- Subscribe to and unsubscribe from news feeds
- Retrieve news from each selected feed at the specified interval and receive notifications about fresh news
- Review news on the selected feeds
- Review the list of feeds and their status
- Open full article text in your browser

News Agent is a stand-alone Microsoft Windows application that can be used independently or may be bundled with various integrated solutions offered by Kaspersky Lab Ltd.

Kaspersky® OnLine Scanner

This program is a free service provided to the visitors of Kaspersky Lab's corporate website. The service delivers an efficient online anti-virus scan of your computer. Kaspersky OnLine Scanner runs directly from your browser. This way, users receive quick responses to questions regarding potential infectionson their computers. Using the service, visitors can:

- Exclude archives and e-mail databases from scanning
- Select standard/extended databases for scanning
- Save a report on the scanning results in .txt or .html formats

Kaspersky® OnLine Scanner Pro

The program is a subscription service available to the visitors of Kaspersky Lab's corporate website. The service delivers an efficient online anti-virus scan of your computer and disinfects dangerous files. Kaspersky OnLine Scanner Pro runs directly from your browser. Using the service, visitors can:

- Exclude archives and e-mail databases from scanning

- Select standard/extended databases for scanning
- Save a report on the scanning results in .txt or .html formats

Kaspersky Anti-Virus® 7.0

Kaspersky Anti-Virus 7.0 is designed to safeguard personal computers against malicious software as an optimal combination of conventional methods of anti-virus protection and new proactive technologies.

The program provides for complex anti-virus checks, including:

- Anti-virus scanning of e-mail traffic on the level of data transmission protocol (POP3, IMAP and NNTP for incoming mail and SMTP for outgoing messages), regardless of the mail client being used, as well as disinfection of e-mail databases.
- Real-time anti-virus scanning of Internet traffic transferred via HTTP.
- Anti-virus scanning of individual files, folders, or drives. In addition, a preset scan task can be used to initiate anti-virus analysis exclusively for critical areas of the operating system and start-up objects of Microsoft Windows.

Proactive protection offers the following features:

- **Controls modifications within the file system**. The program allows users to create a list of applications, which it will control on a per component basis. It helps protect application integrity against the influence of malicious software.
- **Monitors processes in random-access memory**. Kaspersky Anti-Virus 7.0 in a timely manner notifies users whenever it detects dangerous, suspicious or hidden processes or in case when unauthorized changes in active processes occur.
- **Monitors changes in OS registry** due to internal system registry control.
- **Hidden Processes Monitor** helps protect from malicious code concealed in the operating system using rootkit technologies.
- **Heuristic Analyzer**. When scanning a program, the analyzer emulates its execution and logs all suspicious activity, such as, opening or writing to a file, interrupt vector intercepts, etc. A decision is made based on this procedure regarding possible infection of the program with a virus. Emulation occurs in an isolated virtual environment which reliably protects the computer of infection.
- **Performs system restore** after malware attacks by logging all changes to the registry and computer file system and rolls them back at user's discretion.

Kaspersky Anti-Virus Mobile

Kaspersky® Anti-Virus Mobile provides antivirus protection for mobile devices running Symbian OS and Microsoft Windows Mobile. The program provides comprehensive virus scanning, including:

- **On-demand scans** of the mobile device's onboard memory, memory cards, an individual folder, or a specific file; if an infected file is detected, it is moved to Quarantine or deleted
- **Real-time scanning –** all incoming and outgoing files are automatically scanned, as well as files when attempts are made to access them
- **Protection from text message spam**

Kaspersky Anti-Virus for File Servers

This software package provides reliable protection for file systems on servers running Microsoft Windows, Novell NetWare, Linux and Samba from all types of malware. The suite includes the following Kaspersky Lab applications:

- Kaspersky Administration Kit.
- Kaspersky Anti-Virus for Windows Server.
- Kaspersky Anti-Virus for Linux File Server.
- Kaspersky Anti-Virus for Novell Netware.
- Kaspersky Anti-Virus for Samba Server.

Features and functionality:

- *Protects server file systems in real time*: All server files are scanned when opened or saved on the server
- *Prevents virus outbreaks*;
- *On-demand scans* of the entire file system or individual files and folders;
- *Use of optimization technologies* when scanning objects in the server file system;
- *System rollback after virus attacks*;
- *Scalability of the software package* within the scope of system resources available;
- *Monitoring of the system load balance*;
- *Creating a list of trusted processes* whose activity on the server is not subject to control by the software package;

- *Remote administration* of the software package, including centralized installation, configuration, and administration;
- *Saving backup copies of infected and deleted objects* in case you need to restore them;
- *Quarantining suspicious objects*;
- *Send notifications on events* in program operation to the system administrator;
- *Log detailed reports*;
- *Automatically update* program databases.

Kaspersky Open Space Security

Kaspersky Open Space Security is a software package withal new approach to security for today's corporate networks of any size, providing centralized protection information systems and support for remote offices and mobile users.

The suite includes four programs:

- Kaspersky Work Space Security
- Kaspersky Business Space Security
- Kaspersky Enterprise Space Security
- Kaspersky Total Space Security

Specifics on each program are given below.

Kaspersky WorkSpace Security is a program for centralized protection of workstations inside and outside of corporate networks from all of today's Internet threats (viruses, spyware, hacker attacks, and spam).

Features and functionality:

- *Comprehensive protection from viruses, spyware, hacker attacks, and spam*;
- *Proactive Defense* from new malicious programs whose signatures are not yet added to the database;
- *Personal Firewall* with intrusion detection system and network attack warnings;
- *Rollback for malicious system modifications*;
- *Protection from phishing attacks and junk mail*;
- *Dynamic resource redistribution* during complete system scans;

- *Remote administration* of the software package, including centralized installation, configuration, and administration;
- *Support for Cisco® NAC* (Network Admission Control);
- *Scanning of e-mail and Internet traffic* in real time;
- *Blocking of popup windows and banner ads* when on the Internet;
- *Secure operation in any type of network*, including Wi-Fi;
- *Rescue disk creation tools* that enable you to restore your system after a virus outbreak;
- *An extensive reporting system* on protection status;
- *Automatic database updates*;
- *Full support for 64-bit operating systems*;
- *Optimization of program performance on laptops* (Intel® Centrino® Duo technology);
- *Remote disinfection capability* (Intel® Active Management, Intel® vPro™).

Kaspersky Business Space Security provides optimal protection of your company's information resources from today's Internet threats. Kaspersky Business Space Security protects workstations and file servers from all types of viruses, Trojans, and worms, prevents virus outbreaks, and secures information while providing instant access to network resources for users.

Features and functionality:

- Remote administration of the software package, including centralized installation, configuration, and administration;
- *Support for Cisco® NAC* (Network Admission Control);
- *Protection of workstations and file servers from all types of Internet threats*;
- *iSwift technology to avoid rescanning files within the network*;
- *Distribution of load among server processors*;
- *Quarantining suspicious objects* from workstations;
- *Rollback for malicious system modifications*;
- *scalability of the software package within the* scope of system resources available;

- *Proactive Defense* for workstations from new malicious programs whose signatures are not yet added to the database;
- *Scanning of e-mail and Internet traffic* in real time;
- *Personal Firewall* with intrusion detection system and network attack warnings;
- *Protection while using* Wi-Fi networks;
- *Self-Defense from malicious programs*;
- *Quarantining* suspicious objects;
- *automatic database updates*.

Kaspersky Enterprise Space Security

This program includes components for protecting linked workstations and servers from all today's Internet threats. It deletes viruses from e-mail, keeping information safe while providing secure access to network resources for users.

Features and functionality:

- *Protection of workstations and file servers from viruses, Trojans, and worms*;
- *Protection of Sendmail, Qmail, Postfix and Exim mail servers*;
- *Scanning of all e-mails on Microsoft Exchange Server*, including shared folders;
- *Processing of e-mails, databases, and other objects for Lotus Domino servers*;
- *Protection from phishing attacks and junk mail*;
- *preventing mass mailings and virus outbreaks*;
- scalability of the software package within the scope of system resources available ;
- Remote administration of the software package, including centralized installation, configuration, and administration;
- Support for Cisco ® NAC (Network Admission Control);
- Proactive Defense for workstations from new malicious programs whose signatures are not yet added to the database ;
- Personal Firewall with intrusion detection system and network attack warnings ;
- *Secure operation while using* Wi-Fi networks;

- *Scans Internet traffic* in real time;
- *Rollback for malicious system modifications*;
- *Dynamic resource redistribution* during complete system scans;
- Quarantining suspicious objects ;
- *An extensive reporting system* on protection system status;
- *automatic database updates*.

Kaspersky Total Space Security

This solution monitors all inbound and outbound data streams (e-mail, Internet, and all network interactions). It includes components for protecting workstations and mobile devices, keeps information safe while providing secure access for users to the company's information resources and the Internet, and ensures secure e-mail communications.

Features and functionality:

- *Comprehensive protection from viruses, spyware, hacker attacks, and spam* on all levels of the corporate network, from workstations to Internet gateways;
- Proactive Defense for workstations from new malicious programs whose signatures are not yet added to the database ;
- *Protection of mail servers and linked servers*;
- *Scans Internet traffic* (HTTP/FTP) entering the local area network in real time;
- scalability of the software package within the scope of system resources available ;
- *Blocking access from infected workstations*;
- *Prevents virus outbreaks*;
- *Centralized reporting on protection status*;
- Remote administration of the software package, including centralized installation, configuration, and administration;
- *Support for Cisco® NAC* (Network Admission Control);
- *Support for hardware proxy servers*;
- *Filters Internet traffic* using a trusted server list, object types, and user groups;
- *iSwift technology to avoid rescanning files within* the network ;

- Dynamic resource redistribution during complete system scans;
- Personal Firewall with intrusion detection system and network attack warnings ;
- *Secure operation for users on any type of network*, including Wi-Fi;
- *Protection from phishing attacks and junk mail*;
- *Remote disinfection capability* (Intel® Active Management, Intel® vPro™);
- *Rollback for malicious system modifications*;
- *Self-Defense from malicious programs*;
- *full support for 64-bit operating systems*;
- *automatic database updates*.

Kaspersky Security for Mail Servers

This program is for protecting mail servers and linked servers from malicious programs and spam. The program includes application for protecting all standard mail servers (Microsoft Exchange, Lotus Notes/Domino, Sendmail, Qmail, Postfix and Exim) and also enables you to configure a dedicated e-mail gateway. The solution includes:

- Kaspersky Administration Kit.
- Kaspersky Mail Gateway.
- Kaspersky Anti-Virus for Lotus Notes/Domino.
- Kaspersky Anti-Virus for Microsoft Exchange.
- Kaspersky Anti-Virus for Linux Mail Server.

Its features include:

- Reliable protection from malicious or potentially dangerous programs;
- Junk mail filtering;
- Scans incoming and outgoing e-mails and attachments;
- Scans all e-mails on Microsoft Exchange Server for viruses, including shared folders;
- Processes e-mails, databases, and other objects for Lotus Notes/Domino servers;
- Filters e-mails by attachment type;
- Quarantines suspicious objects;

- Easy-to-use administration system for the program;
- Prevents virus outbreaks;
- Monitors protection system status using notifications;
- Reporting system for program operation;
- scalability of the software package within the scope of system resources available ;
- automatic database updates.

Kaspersky Security for Internet Gateways

This program provides secure access to the Internet for all an organization's employees, automatically deleting malware and riskware from the data incoming on HTTP/FTP. The solution includes:

- Kaspersky Administration Kit.
- Kaspersky Anti-Virus for Proxy Server.
- Kaspersky Anti-Virus for Microsoft ISA Server.
- Kaspersky Anti-Virus for Check Point FireWall-1.

Its features include:

- Reliable protection from malicious or potentially dangerous programs;
- Scans Internet traffic (HTTP/FTP) in real time;
- Filters Internet traffic using a trusted server list, object types, and user groups;
- Quarantines suspicious objects;
- Easy-to-use administration system;
- Reporting system for program operation;
- Support for hardware proxy servers;
- Scalability of the software package within the scope of system resources available ;
- Automatic database updates.

Kaspersky® Anti-Spam

Kaspersky® Anti-Spam is a cutting-edge software suite designed to help organizations with small- and medium-sized networks wage war against the onslaught of unsolicited e-mail messages (spam). The product combines the

revolutionary technology of linguistic analysis with modern methods of e-mail filtration, including DNS Black Lists and formal letter features. Its unique combination of services allows users to identify and wipe out up to 95% of unwanted traffic.

Installed at the entrance to a network, where it monitors incoming e-mail traffic streams for spam, Kaspersky® Anti-Spam acts as a barrier to unsolicited e-mail. The product is compatible with any mail system and can be installed on either an existing mail server or a dedicated one.

Kaspersky® Anti-Spam's high performance is ensured by daily updates to the content filtration database, adding samples provided by the Company's linguistic laboratory specialists. Databases are updated every 20 minutes.

Kaspersky Anti-Virus® for MIMESweeper

Kaspersky Anti-Virus® for MIMESweeper provides high-speed scanning of traffic on servers running Clearswift MIMEsweeper for SMTP / Clearswift MIMEsweeper for Exchange / Clearswift MIMEsweeper for Web.

The program is a plug-in and scans for viruses and processes inbound and outbound e-mail traffic in real time.

B.2. Contact Us

If you have any questions, comments, or suggestions, please refer them to one of our distributors or directly to Kaspersky Lab. We will be glad to assist you in any matters related to our product by phone or via email. Rest assured that all of your recommendations and suggestions will be thoroughly reviewed and considered.

Technical support	Please find the technical support information at http://www.kaspersky.com/supportinter.html Helpdesk: www.kaspersky.com/helpdesk.html
General information	WWW: http://www.kaspersky.com http://www.viruslist.com Email: info@kaspersky.com

APPENDIX C. LICENSE AGREEMENT

Standard End User License Agreement

NOTICE TO ALL USERS: CAREFULLY READ THE FOLLOWING LEGAL AGREEMENT (“AGREEMENT”), FOR THE LICENSE OF KASPERSKY INTERNET SECURITY (“SOFTWARE”) PRODUCED BY KASPERSKY LAB (“KASPERSKY LAB”).

IF YOU HAVE PURCHASED THIS SOFTWARE VIA THE INTERNET BY CLICKING THE ACCEPT BUTTON, YOU (EITHER AN INDIVIDUAL OR A SINGLE ENTITY) CONSENT TO BE BOUND BY AND BECOME A PARTY TO THIS AGREEMENT. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS AGREEMENT, CLICK THE BUTTON THAT INDICATES THAT YOU DO NOT ACCEPT THE TERMS OF THIS AGREEMENT AND DO NOT INSTALL THE SOFTWARE.

IF YOU HAVE PURCHASED THIS SOFTWARE ON A PHYSICAL MEDIUM, HAVING BROKEN THE CD’S SLEEVE YOU (EITHER AN INDIVIDUAL OR A SINGLE ENTITY) ARE CONSENTING TO BE BOUND BY THIS AGREEMENT. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS AGREEMENT DO NOT BREAK THE CD’s SLEEVE, DOWNLOAD, INSTALL OR USE THIS SOFTWARE.

IN ACCORDANCE WITH THE LEGISLATION, REGARDING KASPERSKY SOFTWARE INTENDED FOR INDIVIDUAL CONSUMERS PURCHASED ONLINE FROM THE KASPERSKY LAB OR ITS PARTNER’S INTERNET WEB SITE, CUSTOMER SHALL HAVE A PERIOD OF FOURTEEN (14) WORKING DAYS AS FROM THE DELIVERY OF PRODUCT TO MAKE RETURN OF IT TO THE MERCHANT FOR EXCHANGE OR REFUND, PROVIDED THE SOFTWARE IS NOT UNSEALED.

REGARDING THE KASPERSKY SOFTWARE INTENDED FOR INDIVIDUAL CONSUMERS NOT PURCHASED ONLINE VIA INTERNET, THIS SOFTWARE NEITHER WILL BE RETURNED NOR EXCHANGED EXCEPT FOR CONTRARY PROVISIONS FROM THE PARTNER WHO SELLS THE PRODUCT. IN THIS CASE, KASPERSKY LAB WILL NOT BE HELD BY THE PARTNER'S CLAUSES.

THE RIGHT TO RETURN AND REFUND EXTENDS ONLY TO THE ORIGINAL PURCHASER.

All references to “Software” herein shall be deemed to include the software activation code with which you will be provided by Kaspersky Lab as part of the Kaspersky Internet Security 7.0.

1. *License Grant*. Subject to the payment of the applicable license fees, and subject to the terms and conditions of this Agreement, Kaspersky Lab hereby grants you the non-exclusive, non-transferable right to use one copy of the specified version of the Software and the accompanying documentation (the “Documentation”) for the term of this Agreement solely for your own internal business purposes. You may install one copy of the Software on one computer.

1.1 *Use*. The Software is licensed as a single product; it may not be used on more than one computer or by more than one user at a time, except as set forth in this Section.

1.1.1 The Software is “in use” on a computer when it is loaded into the temporary memory (i.e., random-access memory or RAM) or installed into the permanent memory (e.g., hard disk, CD-ROM, or other storage device) of that computer. This license authorizes you to make only as many back-up copies of the Software as are necessary for its lawful use and solely for back-up purposes, provided that all such copies contain all of the Software’s proprietary notices. You shall maintain records of the number and location of all copies of the Software and Documentation and will take all reasonable precautions to protect the Software from unauthorized copying or use.

1.1.2 The Software protects computer against viruses and network attacks whose signatures are contained in the threat signatures and network attacks databases which are available on Kaspersky Lab's update servers.

1.1.3 If you sell the computer on which the Software is installed, you will ensure that all copies of the Software have been previously deleted.

1.1.4 You shall not decompile, reverse engineer, disassemble or otherwise reduce any part of this Software to a humanly readable form nor permit any third party to do so. The interface information necessary to achieve interoperability of the Software with independently created computer programs will be provided by Kaspersky Lab by request on payment of its reasonable costs and expenses for procuring and supplying such information. In the event that Kaspersky Lab notifies you that it does not intend to make such information available for any reason, including (without limitation) costs, you shall be permitted to take such steps to achieve interoperability, provided that you only reverse engineer or decompile the Software to the extent permitted by law.

1.1.5 You shall not make error corrections to, or otherwise modify, adapt, or translate the Software, nor create derivative works of the Software, nor permit any third party to copy (other than as expressly permitted herein).

1.1.6 You shall not rent, lease or lend the Software to any other person, nor transfer or sub-license your license rights to any other person.

1.1.7 You shall not provide the activation code or license key file to third parties or allow third parties access to the activation code or license key. The activation code and license key are confidential data.

1.1.8 Kaspersky Lab may ask User to install the latest version of the Software (the latest version and the latest maintenance pack).

1.1.9 You shall not use this Software in automatic, semi-automatic or manual tools designed to create virus signatures, virus detection routines, any other data or code for detecting malicious code or data.

2. *Support*.

(i) Kaspersky Lab will provide you with the support services ("Support Services") as defined below for a period, specified in the License Key File and indicated in the "Service" window, since the moment of activation on:

(a) payment of its then current support charge, and:

(b) successful completion of the Support Services Subscription Form as provided to you with this Agreement or as available on the Kaspersky Lab website, which will require you to enter activation code which will have been provided to you by Kaspersky Lab with this Agreement. It shall be at the absolute discretion of Kaspersky Lab whether or not you have satisfied this condition for the provision of Support Services.

Support Services shall become available after Software activation. Kaspersky Lab's technical support service is also entitled to demand from the End User additional registration for identifier awarding for Support Services rendering.

Until Software activation and/or obtaining of the End User identifier (Customer ID) technical support service renders only assistance in Software activation and registration of the End User.

(ii) By completion of the Support Services Subscription Form you consent to the terms of the Kaspersky Lab Privacy Policy, which is deposited on www.kaspersky.com/privacy, and you explicitly consent to the transfer of data to other countries outside your own as set out in the Privacy Policy.

(iii) Support Services will terminate unless renewed annually by payment of the then-current annual support charge and by successful completion of the Support Services Subscription Form again.

(iv) "Support Services" means:

(a) Hourly updates of the anti-virus database;

(b) Updates of network attacks database;

(c) Updates of anti-spam database;

(d) Free software updates, including version upgrades;

(e) Technical support via Internet and hot phone-line provided by Vendor and/or Reseller;

(f)Virus detection and disinfection updates in 24-hours period.

(v) Support Services are provided only if and when you have the latest version of the Software (including maintenance packs) as available on the official Kaspersky Lab website (www.kaspersky.com) installed on your computer.

3. *Ownership Rights*. The Software is protected by copyright laws. Kaspersky Lab and its suppliers own and retain all rights, titles and interests in and to the Software, including all copyrights, patents, trademarks and other intellectual property rights therein. Your possession, installation, or use of the Software does not transfer any title to the intellectual property in the Software to you, and you will not acquire any rights to the Software except as expressly set forth in this Agreement.

4. *Confidentiality*. You agree that the Software and the Documentation, including the specific design and structure of individual programs constitute confidential proprietary information of Kaspersky Lab. You shall not disclose, provide, or otherwise make available such confidential information in any form to any third party without the prior written consent of Kaspersky Lab. You shall implement reasonable security measures to protect such confidential information, but without limitation to the foregoing shall use best endeavors to maintain the security of the activation code.

5. *Limited Warranty*.

(i) Kaspersky Lab warrants that for six (6) months from first download or installation the Software purchased on a physical medium will perform substantially in accordance with the functionality described in the Documentation when operated properly and in the manner specified in the Documentation.

(ii) You accept all responsibility for the selection of this Software to meet your requirements. Kaspersky Lab does not warrant that the Software and/or the Documentation will be suitable for such requirements nor that any use will be uninterrupted or error free.

(iii) Kaspersky Lab does not warrant that this Software identifies all known viruses and spam letters, nor that the Software will not occasionally erroneously report a virus in a title not infected by that virus.

(iv) Your sole remedy and the entire liability of Kaspersky Lab for breach of the warranty at paragraph (i) will be at Kaspersky Lab option, to repair, replace or refund of the Software if reported to Kaspersky Lab or its

designee during the warranty period. You shall provide all information as may be reasonably necessary to assist the Supplier in resolving the defective item.

(v) The warranty in (i) shall not apply if you (a) make or cause to be made any modifications to this Software without the consent of Kaspersky Lab, (b) use the Software in a manner for which it was not intended, or (c) use the Software other than as permitted under this Agreement.

(vi) The warranties and conditions stated in this Agreement are in lieu of all other conditions, warranties or other terms concerning the supply or purported supply of, failure to supply or delay in supplying the Software or the Documentation which might but for this paragraph (vi) have effect between the Kaspersky Lab and your or would otherwise be implied into or incorporated into this Agreement or any collateral contract, whether by statute, common law or otherwise, all of which are hereby excluded (including, without limitation, the implied conditions, warranties or other terms as to satisfactory quality, fitness for purpose or as to the use of reasonable skill and care).

6. *Limitation of Liability*.

(i) Nothing in this Agreement shall exclude or limit Kaspersky Lab's liability for (a) the tort of deceit, (b) death or personal injury caused by its breach of a common law duty of care or any negligent breach of a term of this Agreement, or (c) any other liability which cannot be excluded by law.

(ii) Subject to paragraph (i) above, Kaspersky Lab shall bear no liability (whether in contract, tort, restitution or otherwise) for any of the following losses or damage (whether such losses or damage were foreseen, foreseeable, known or otherwise):

(a) Loss of revenue;

(b) Loss of actual or anticipated profits (including for loss of profits on contracts);

(c) Loss of the use of money;

(d) Loss of anticipated savings;

(e) Loss of business;

(f) Loss of opportunity;

(g) Loss of goodwill;

(h) Loss of reputation;

(i) Loss of, damage to or corruption of data, or:

(j) Any indirect or consequential loss or damage howsoever caused (including, for the avoidance of doubt, where such loss or damage is of the type specified in paragraphs (ii), (a) to (ii), (i).

(iii) Subject to paragraph (i), the liability of Kaspersky Lab (whether in contract, tort, restitution or otherwise) arising out of or in connection with the supply of the Software shall in no circumstances exceed a sum equal to the amount equally paid by you for the Software.

7. This Agreement contains the entire understanding between the parties with respect to the subject matter hereof and supersedes all and any prior understandings, undertakings and promises between you and Kaspersky Lab, whether oral or in writing, which have been given or may be implied from anything written or said in negotiations between us or our representatives prior to this Agreement and all prior agreements between the parties relating to the matters aforesaid shall cease to have effect as from the Effective Date.

When using demo software, you are not entitled to the Technical Support specified in Clause 2 of this EULA, nor do you have the right to sell the copy in your possession to other parties.

You are entitled to use the software for demo purposes for the period of time specified in the license key file starting from the moment of activation (this period can be viewed in the Service window of the software's GUI).